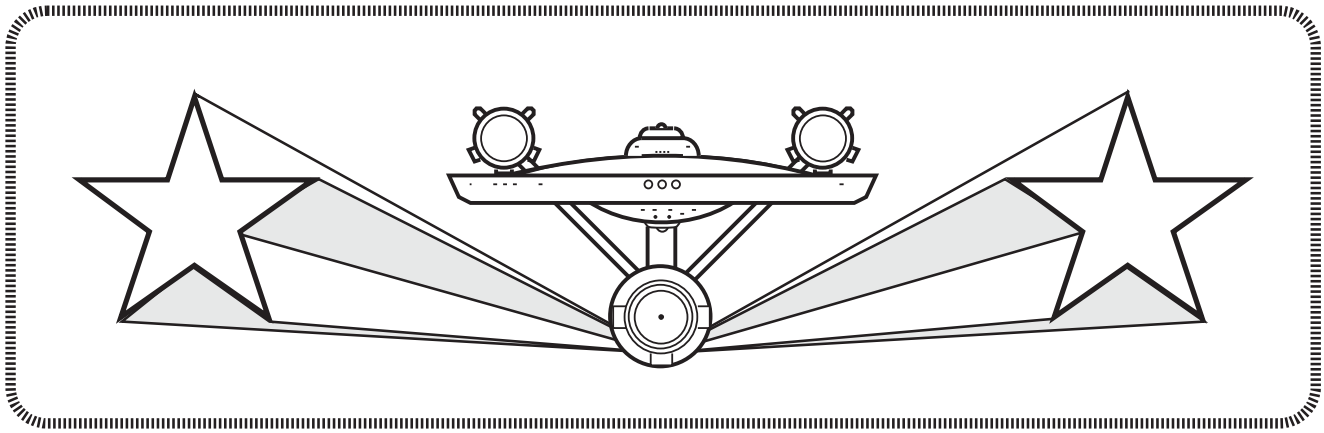
STAR FLEET BATTLES

SILVER ANNIVERSARY MASTER RULEBOOK

2012

STAR FLEET UNIVERSE

AMARILLO DESIGN BUREAU, INC.



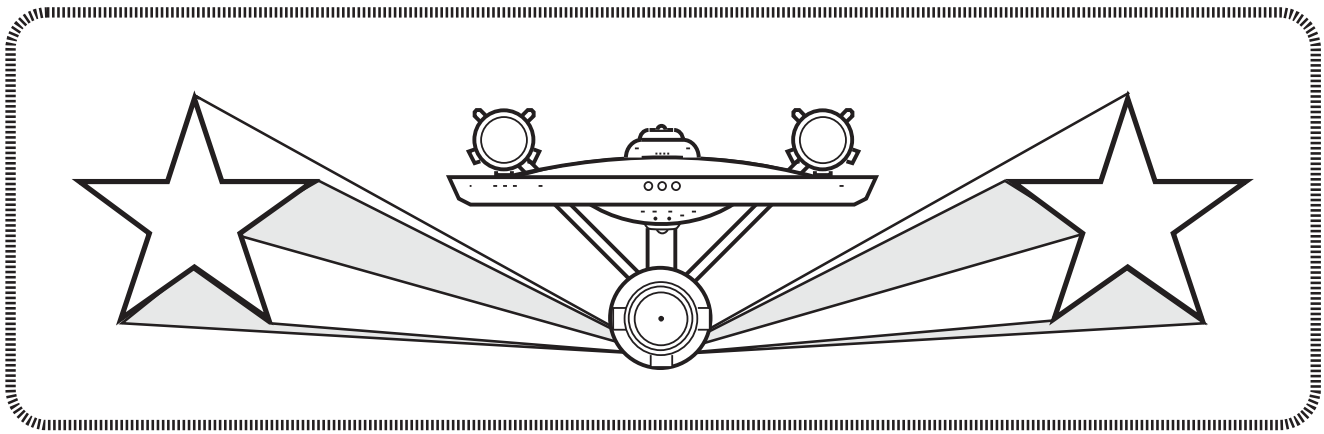
STAR FLEET BATTLES
THE CAPTAIN'S EDITION
MASTER RULEBOOK

is dedicated to

THE CAPTAINS

from all nations, creeds, and eras;
of the hundreds, the thousands, and the millions;
of the land, the sea, and the sky;

who led men into battle
to fight for what they believed in.



MASTER EDITION, NOVEMBER 2004, DECEMBER 2010, NOVEMBER 2012

(Z36.0) COPYRIGHT AND PUBLISHER'S INFORMATION

(Z36.1) PUBLISHER'S INFORMATION

STAR FLEET BATTLES
CAPTAIN'S MASTER RULEBOOK
was created and published by Amarillo Design Bureau, Inc.

AMARILLO DESIGN BUREAU INC.
POST OFFICE BOX 8759
AMARILLO, TEXAS 79118-8759
Telephone: 806-351-1950
Fax: 806-351-2585
Email: design@starfleetgames.com
Sales: sales@starfleetgames.com
Web Site: www.starfleetgames.com

Most of the information players seek is on the web site. You may also contact ADB, Inc. by mail (include a stamped self-addressed envelope) if you have rules questions, inquiries on product release schedules, orders for products or spare parts, requests for a catalog, requests for replacement of missing or defective parts, or submissions of art and new game materials. All consumer correspondence requires either a valid Email address or a stamped self-addressed envelope.

Dealer inquiries are welcome. Hobby and game stores, please write ADB, Inc. on your letterhead and ask for a list of qualified wholesalers, or call us and ask for a salesman. ADB, Inc. products are available to individuals in retail stores, from several direct mail outlets, and directly from us. If your store does not carry ADB, Inc. products, send us his name and address and we'll have a wholesaler contact him.

July 04 update, corrected minor errors on pages: 77, 119, 184, 200, 374-381, and 399-400 marked ✯.

December 2010 update corrected errors and added errata on many pages. A separate document, "Update C," is available with all rules changes and updates.

November 2012 update corrected errors and added errata on many pages. A separate document, "Update D," is available with all rules changes and updates.

(Z36.2) QUESTIONS

Questions, suggestions, and any expansion material for the *STAR FLEET UNIVERSE* should be sent only to Amarillo Design Bureau, Post Office Box 8759, Amarillo, TX 79114. All correspondence must include a stamped self-addressed envelope if you wish to receive an answer or evaluation of your submission. Your return envelope MUST bear enough postage to cover the return of your questions (about four pages to one first class stamp). Foreign customers should enclose three International Reply Coupons, not foreign stamps or money.

It is imperative that you place your name and address on EVERY page of your correspondence. Do not put questions and expansion material on the same sheet. Sending questions, phrase each one so that it can be answered with a yes or no, a brief answer, or by circling one of several choices. Leave several blank lines after each question (not each group of questions). In order to better serve the player community, letters asking ten or fewer questions are given priority and are answered in 2-3 days. Letters with more questions are answered only as time permits (allow 2-3 weeks). Please attempt to look up the answer yourself first. We will cheerfully answer questions about how the rules work, but cannot answer questions as to "WHY?" various things work the way that they do. Such "WHY?" questions are sometimes printed (with answers) in *Captain's Log*.

All future products for the *STAR FLEET UNIVERSE* will be prepared by ADB; all questions relating to existing products will be answered by ADB.

(Z36.3) SUBMISSIONS OF NEW MATERIAL

Amarillo Design Bureau Inc. welcomes the submission of new material for use in future *Star Fleet Universe* products including scenarios, articles for *Captain's Log*, play aids, and fiction are most welcome. New rules, ships, and systems are difficult to use but will be considered. New empires are very difficult to publish and most will be filed unread. Product ideas relating to the *Star Fleet Universe* background but not to *SFB* or *F&E* will be considered.

All submissions of new material are accepted ONLY under the following terms unless specifically agreed otherwise in writing by ADB: All materials submitted immediately become the property of Amarillo Design Bureau, Inc. and may be used, modified, expanded, or changed as we see fit. All materials used will be credited to the original author to the extent of his original submission.

All submissions MUST include a stamped self-addressed envelope or Email address for use in sending you an evaluation of your material; the material itself cannot be returned. You should retain a complete copy of your material for your own use. Authors submitting material used in *Captain's Log* will be paid at standard rates set from time to time by ADB. Authors submitting other material used in a future product will receive a copy of that product or other compensation at the discretion of ADB.

Submission of any material is considered to be acceptance of these terms, which are legally binding on all submissions not specifically exempted by the Bureau in advance and in writing. For additional details, contact the Bureau, or see the more extensive section on submissions in *Advanced Missions*. Standard rates are as follows:

Small items, suggestions, term papers: byline only.

Scenarios, ships, and similar items of at least one page: Free copy of the product in which it is used.

Fiction is paid at $15 per published page, after the first page minus any elements (e.g., art) not created by you.

B&W art is paid at $100 per page as used.

Larger items up to entire products are paid a negotiated sum possibly including royalties.

Some players who create entire products publish them under a special product line; ADB, Inc. handles production and marketing for these products and remits a share of revenue to the designer. Please contact ADB, Inc. for details on this program.

(Z36.4) COPYRIGHT INFORMATION

(A0.0) GENERAL RULES

(A1.0) INTRODUCTION

STAR FLEET BATTLES (*SFB)* is a game of starships. Each player in the game will personally command one starship (or sometimes more) which he will use in various scenarios to perform assigned missions.

Starships in this game are portrayed at a level of detail and accuracy which had never been achieved when *STAR FLEET BATTLES* first appeared in 1979. Many games have imitated this level of detail in the last decade, but *STAR FLEET BATTLES* has continued to evolve and grow.

STAR FLEET BATTLES is, at the same time, both complex in its mechanics and simple in its execution. Many things that sound difficult upon first reading the rules will become clear as the players attempt them. Starship captains undergo years of training for their jobs; don't expect to master this game in a day. But conversely, you need not concern yourself with the thousands of details faced by a starship captain, who spends over half his time on administrative problems (something that you, the game player, will not have to bother with).

(A1.1) INTRODUCTION TO *THE CAPTAIN'S EDITION*

(A1.11) PREVIOUS EDITIONS: The *Captain's Edition Master Rulebook* is the sixth edition of *STAR FLEET BATTLES* to appear in print. This section (A1.1) explains the various editions; you need not read it immediately. *STAR FLEET BATTLES* was designed in 1975 and published in 1979 as a 28-page "Pocket Edition" game with 14 starships, 7 scenarios, and 108 counters.

The instant popularity of the game resulted in the 1980 boxed Designer's Edition (roughly twice as large) and three expansions (each the size of the original pocket game). The combined Designer's Edition included a total of 174 pages, 540 counters, 41 scenarios, 5 campaigns, and about 180 different starships.

In 1983-5, the Commander's Edition appeared and replaced the two earlier versions of the game. Many rules were overhauled, and many more were added. During 1986-9, many products were added to the game system, most of which will eventually be revised and re-issued as part of the *Captain's Edition*.

In 1990, we issued a new Captain's (Doomsday) Edition of *SFB*. This was slightly upgraded by the 1994 reprint.

With the birth of the new ADB Inc. as the publisher, we issued the new 1999 (Resurrection) Edition of the rulebook. While not as great a change as the 1990 *Captain's Edition*, this was a much improved rulebook. The 2012 *Master Rulebook* includes all of the errata and rules changes to date.

(A1.12) NOTES TO NEW PLAYERS: This section of the 1990, 1994, and 1999 rulebooks (A1.12) explained how the various rulebooks from different products integrated together into a single rulebook. That is not relevant to the Master Rulebook since this has done the integration for you. If you have never played *STAR FLEET BATTLES* then we must advise you that the Master Rulebook is not enough to play the game, but simply a compilation of the main rules from all of the other products to date. To actually play the game, you would need a great many other products and manuals.

Each product includes a rulebook, and that rulebook includes four main sections: rules (that part went into the Master Rulebook), Ship Descriptions (details and history of each of the 1000 ship types and classes in the game), Scenarios & Campaigns (historical battles and set-ups for common engagements), and Annexes (charts, tables, and other data). As you need more than half of each rulebook (plus the SSD book, counters, maps, and other items) to complete the game, the Master Rulebook is not a good place for new players to begin the game system.

We do plan to eventually publish the Master Ship Manual and Master Scenario Manual separate products for those who want the material in that form. In theory, once these books are available (probably in 2015-2016) you could buy them, plus the counters and SSD Books, and have the complete game. We have published the Master Annexes as a separate book, see *Module G3*.

(A1.13) NOTES TO VETERAN PLAYERS: The Master Rulebook grew from a request by a few players to create a book that had "all the rules, but not the ships, scenarios, or annexes". We doubted there was much of a market for such a thing but created a BBS topic for its discussion, and found a surprising number of people who wanted such a book. We began to take "official interest".

Even though the idea was interesting, we calculated that the cost would be prohibitive and told the players to just forget it. They refused and demanded that we investigate the matter. We did so (but only to prove everyone wrong) and were shocked to discover that such a publication was economically feasible.

There had been some discussion of what to do to celebrate the 25th anniversary of *STAR FLEET BATTLES,* and after some discussion it was decided that the Master Rulebook was just the thing. Work began in early 2004 and was completed a week before release. Fortunately, the production methods for this type of book allowed us to get them back from the printer in half of the time needed for more traditional books.

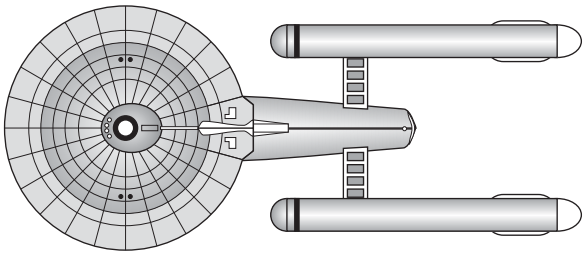
The only bad part of this is that the economics do not allow us to sell this product through stores or wholesalers. Doing so would mean either losing money on every copy or raising the price to at least double the actual market price.

As mentioned elsewhere, we have produce the *Master Annexes Manual* as *Module G3* (replacing the old *Module G1*), and will release the Master Ship Manual and Master Scenario Manual if there is sufficient demand. We will not update these books as new products are released (those new products *are* the updates!) but should we find a need to change or clarify a rule, close a loophole, cover an omission, or otherwise improve the rulebook, we will find a way to make the revised pages available.

(A1.2) STAR FLEET MINIATURES

The game as presented in its various modules uses die-cut playing pieces to represent the starships, planets, asteroids, shuttlecraft, drones, monsters, etc. used in the game. There is an alternative, however, that will dramatically increase the visual imagery of the game: miniature starships. ADB, Inc. has released over 100 pewter scale-model starships in the *Starline* 2400 line to enhance your gaming experience.

We have also partnered with Mongoose Publishing which is producing the new *Starline* 2500 line of miniatures. These miniatures are done in a larger scale than the 2400 series. Some of the largest 2500s are cast in resin.



(A1.3) SOURCE DATA

At some point prior to 1970, the master computer at U.S. Air Force Security Control in Omaha, Nebraska, received a transmission, apparently via a time warp, from Star Fleet Headquarters some 250 years in the future. The Air Force discovered this information during 1970, and turned it over to Franz Joseph Designs, an aerospace-consulting firm, in 1973 for analysis.

The memory files, which comprise several thousand printed pages and were badly garbled in transmission and translation, appear to be a history of the United Federation of Planets, its Star Fleet, and nearby regions of the galaxy, including a considerable amount of technical data.

Through the cooperation between Franz Joseph Designs and Amarillo Design Bureau, this data (a very small portion of which was published earlier as the Star Fleet Technical Manual) has been used as a basis for this game. Changes made in the rules and history reflect additional information obtained from the tapes. At present, about 65% of the material has yet to be translated or analyzed. As more data is translated (by our dedicated staff), it will be used as the basis for additional games and supplements.

(A2.0) GENERAL COURSE OF PLAY

The game is divided into scenarios, which are specific missions (usually combat against enemy starships or other units). Each scenario is played in turns, and each turn is divided into several phases and a number of "impulses."

During each turn, the players will determine the amount of energy that is available from engines, reactors, and batteries and will allocate this power to move, fire weapons, operate shields, and use other instruments and equipment.

Then the starships in the scenario will actually be moved (using a proportional movement system to reflect relative speed) and will fire their weapons during movement as the "enemy" starships come within optimum range.

Damage is recorded on ship systems displays. These are a stylized layout of the ship with small boxes labeled for each of the various systems. As the ship takes damage in combat, the boxes are checked off. The ship's systems display is used to determine just what systems are still operating.

Play generally continues until one player has taken so much damage that his ship no longer has a chance of winning, and attempts to escape at high trans-light speed or other means. The player who managed to keep his ship relatively undamaged while damaging the enemy ship (or ships) wins the scenario.

In some cases, the enemy might be a "monster" of one type or another. These scenarios can be particularly challenging.

(A2.1) BASIC CONCEPTS

There are three basic concepts in *STAR FLEET BATTLES* that must be understood and mastered in order to get the most out of the game. These are ENERGY ALLOCATION, the SHIP SYSTEMS DISPLAY, and PROPORTIONAL MOVEMENT.

The Energy Allocation (EA) system is basically a management tool. Power can be drawn from the warp (anti-matter) engines, the impulse (nuclear ionic) engines, the auxiliary (nuclear) reactors, and (for short periods) from batteries. This is recorded on a special Energy Allocation Form (EAF), but is not a simple total. Movement at speeds greater than one hex per turn requires warp energy, as do certain weapons. Generally, there is never enough energy to move at full speed, fire all weapons, and operate all of the other equipment on the ship at the same time.

The Ship Systems Display (SSD) is the second basic concept. Each box on the SSD represents a specific piece of equipment, which has certain requirements and capabilities. The more boxes there are (or that remain unmarked) on the SSD, the more powerful the ship.

Proportional Movement is difficult to explain but relatively easy to perform. Each ship (or other unit) moves a number of hexes each turn. The exact number is determined by the energy allocated to movement. Each turn is divided into 32 impulses. A ship that is moving at a speed of 16 hexes per turn will move in every other impulse. A ship moving at a speed of 10 hexes per turn will move in (approximately) every third impulse. Thus, all ships are continuously moving throughout the entire turn, but at the proper and relative rates of speed. This system closely approximates reality. This system is superior to systems where first one player moves his units and then the other player moves his, and to systems where all units move at the same speed but some stop moving during the middle of the turn while other, faster, ships keep moving.

(A3.0) GENERAL INFORMATION

(A3.1) RULES ORGANIZATION

Each rule in the *CAPTAIN'S EDITION* of *STAR FLEET BATTLES* is assigned an alphanumeric designation referred to as a "rule number." This system is organized in a hierarchy, reading left to right.

(A3.11) SECTIONS: The game is divided into sections, each designated by a letter. For example, you are now in "section A" which deals with "General Rules and Information." All rule numbers in section A begin with the letter "A" as in (A3.11), the number of this rule.

(A3.12) SYSTEMS: After the letter and before the decimal point are one or two digits which refer to a specific system, weapon, or major group of rules. These are read consecutively, and there is no particular relationship between, say, rule (G5.0) and (G15.0).

The letter and numbers to the left of the decimal point will bring you to a rule concerning one specific subject. For example, section (E0.0) concerns direct-fire weapons, while (E2.0) concerns phasers and (E4.0) concerns photon torpedoes. The system works from left to right, from the general to the more and more specific.

(A3.13) SUBDIVISIONS OF THE RULES: To the right of the decimal point, the numbers work somewhat differently. Rule (E1.23), for example, is not the 23rd thing the designer wanted to say about rule (E1.0), but the third thing about the second topic under subject #1.

For example, section (E3.0) refers to the disruptor bolts mounted on Klingon (and some other) starships. Rule (E3.1) identifies which boxes on the SSDs are disruptors; (E3.2) explains how to fire them; (E3.3) tells how to determine the amount of damage they cause; (E3.4) is the probability table used to resolve disruptor fire; (E3.5) describes how disruptors can be "overloaded" for additional effect at shorter ranges; and (E3.6) explains the effect of certain advanced targeting and fire-control systems on disruptor fire. There is no rule (E3.7) or (E3.8) because only six topics within the subject of disruptor bolts require discussion.

Rules (E3.20) through (E3.24) describe certain additional rules, restrictions, or information about firing disruptor bolts, i.e., rule (E3.2). These rules come between rules (E3.2) and (E3.3), not after them. In outline form, this would appear as:

E0.0 DIRECT FIRE WEAPONS
- (E1.0) GENERAL
- (E2.0) PHASERS
- (E3.0) DISRUPTORS
  - (E3.1) Boxes on the SSD
  - (E3.2) How to fire disruptors
    - (E3.20) Procedures
    - (E3.21) Energy required
    - (E3.22) Firing disruptors
    - (E3.23) How often they can fire
    - (E3.24) Must be fired when armed
  - (E3.3) Damage caused by disruptors
  - (E3.4) Disruptor Chart
  - (E3.5) Overloaded disruptors
  - (E3.6) Advanced Fire Control
    - (E3.61) Ubitron Interface Modules
    - (E3.62) Disruptor Extended Range Fire Control

(A3.14) EXCEPTIONS IN RULE NUMBERING: As with all things, there are exceptions to the rules about the organization of the rules.

Section F, which deals with "seeking weapons" (those that home in on their targets), is divided into three major parts. Rules dealing with missiles (called drones in *SFB)* begin with FD, while rules

dealing with plasma torpedoes begin with FP. Other than having two letter superscripts, the rules work normally within those sections. Rules basic to both types of seeking weapons are designated F (known as F-Prime, a plain "F" including F-Prime, FD, and FP).

Section S (scenarios, the battle incidents you will be playing) is divided into general scenarios (SG), historical scenarios (SH), and monster scenarios (SM).

There is a further exception in section R, which deals with specific information about each unit (starship, base, fighter) in the game. In that section, and in that section only, numbers to the right of the decimal are fully consecutive. In this section only, rule (R2.11) comes after (R2.10), not between (R2.1) and (R2.2). Section R is home to another exception, letters after the decimal. Rule (R2.R1) is the first Federation refit, (R2.F3) is the third Federation fighter, and (R3.PF1) is the first Klingon PF (Fast Patrol Ship).

Sections T and U (campaigns) include scenarios (for example) designated (T2S1.0), i.e., scenario #1 that is part of Campaign T2.

(A3.15) LEVELS OF RULES: Rules in *CAPTAIN'S STAR FLEET BATTLES* are divided into several levels of complexity. Rules not otherwise marked are part of the STANDARD GAME. These are rules that should be learned and mastered; they are the core of the game.

Some of these rules are assigned by (A4.0) as part of the CADET'S GAME; a very simplified version designed to allow players to gain experience with the game after a very short period of study.

Some rules are marked as ADVANCED. These are rules that should be learned in order to experience the full enjoyment and challenge of the game. Players should master the STANDARD GAME before using any of the ADVANCED RULES. The "Advanced Game" is balanced as an integrated whole; if you use only some of the Advanced Rules you may experience problems with play balance.

The highest level is the COMMANDER'S LEVEL RULES, which are for the most experienced players. These rules are very complex and require considerable knowledge of the entire game system. The "Commander's Game" is balanced as an integrated whole; if you use only some of the Commander's Level Rules you may experience problems with play balance. Remember, each level of more advanced rules makes the game more complicated, but also makes it possible to get more out of your ship.

Then there are the OPTIONAL RULES. These rules are not necessary to play most of the scenarios, but may be used to add increased challenge, interest, or just to do something different. The use of optional rules requires the mutual consent of all players in the scenario. The inclusion or exclusion of any given optional rule should not affect play balance (except in obvious cases where only one side can use a given rule). Some optional rules are marked both "Commanders" and "Optional." These rules are optional, but are particularly detailed.

(A3.16) ANNEXES: Some information changes with every expansion to the game. The prime example is the MASTER SHIP CHART, which lists every ship in the game. Obviously, since each expansion adds new starships, the chart must be replaced with a new one listing all of the old ships together with all of the new ones. (Otherwise you would have six or more charts and not know which one had the Klingon D6 without checking all of them.) A series of annexes provides a capability to continually update the primary data of the game with each expansion.

It should be noted that the annexes provided with *BASIC SET* cover only the material in this product. Each additional product then expands or replaces the relevant annexes.

(A3.17) EXCEPTIONS TO RULES: Many rules have exceptions in other rules. Often, the exceptions to a given rule will be cited by cross-reference within it. For example, rule (D3.21) covers internal damage, but the two exceptions listed indicate cases when this damage is prevented.

The absence of such a cross-reference, however, does not invalidate the exception. If rule A states an exception to rule B, and rule B does not mention this exception, the exception is still valid. Usually this is done only in specialized cases. For example, just about every weapons rule should include mention that the range is limited while in a Radiation Zone (P15.0), but that would add dozens of such references and clutter the game. The designer has assumed that if you are playing a scenario in a Radiation Zone you will read the rule on such zones before starting play.

(A3.2) GAME EQUIPMENT

(A3.20) BOXED *BASIC SET*: Included in the boxed *STAR FLEET BATTLES BASIC SET* are:

- ★ one 238-page rulebook.
- ★ one 24" x 20" playing map.
- ★ two six-sided dice. (Never use any dice but six-sided dice with this game. Using 12-sided dice will alter the probability structure.)
- ★ 216 die-cut multi-colored playing pieces (two sheets).
- ★ one 48-page SSD booklet with starship diagrams needed for play. These Ship Systems Displays (SSDs) should be kept for use as originals. Do not mark on them.
- ★ an 11x17" card with the Damage Allocation Chart, 32-Impulse Movement Chart, and two copies of the Energy Allocation Form. Do not mark on this card; use it as an original to produce photocopies for use in playing the game.
- ★ a 16-page "starter booklet" with four Federation CA SSDs, four Klingon D7 SSDs, and eight copies of the Energy Allocation Form. These copies can be written on and discarded after use. They should provide you with enough for your first gaming session, after which you can photocopy more from the originals or use plastic page protectors and erasable markers. (Some copies of the game have this 16-page starter booklet bound into the center of the 48-page SSD book. Be careful when removing these starter SSDs and do not confuse them with the masters.)

CAPTAIN'S RULEBOOK: If your copy of the *Star Fleet Battles* rulebook was included in the separate *Captain's Rulebook* (the *Basic Set* rulebook, along with the rules to *Advanced Missions*, *Modules C1*, and *C2)*, or purchased individually as the *Master Rulebook*, then the components above (except for the rulebook) will not be included.

COPIES OF FORMS: You will need a copy of the SSD and an Energy Allocation Form for each ship in the scenario each time you play. Since you must write on these forms to play the game, you will have to obtain copies of them. You might wish to use photocopies or have a local quick printer run off a hundred copies of your favorite ship. Players may wish to use marking pencils and page protectors (wiping the sheet clean after each use); some players have had their sheets laminated. Purchasers of this game have the permission of the publishers to produce, by any convenient means, copies of the SSD sheets, Energy Allocation Forms, and movement charts for their own private use (and the use of their opponents). Reproduction for sale or in publications is NOT authorized.

(A3.21) COUNTERS (PLAYING PIECES)

(A3.211) The die-cut counters are used to represent the various starships and weapons which are used in the play of *STAR FLEET BATTLES*. Generally, each counter represents one starship, weapon, shuttle, monster, etc.

(A3.212) The race/nation/empire of the counter is shown by its color. Because each new product adds new counters with new empires, the colors are given in Annex #7A.

(A3.213) Each counter displays a top view silhouette of the ship represented as well as an identifying abbreviation to more readily distinguish ship types and an identification number to distinguish one ship from another of the same type. The abbreviation is used on the Master Ship Chart and in the Ship Description (section R). The identifying numbers are assigned arbitrarily in no particular pattern.

(A3.214) While the counters included with the game will be adequate for most of the scenarios in the game, players who are devising their own scenarios may wish to have more of some particular type. There is nothing wrong with using a counter for something that it was not specifically intended to be, so long as this is made known to your opponent prior to the start of play. For example, if you wished to have five Federation heavy cruisers in a given scenario, you might use two command cruisers to "fill in," telling your opponent of the substitution. Alternatively, if you wished to have 12 Klingon D7 cruisers in a given scenario, you might use the three D7s that come with the game, then use the three D6s, the three Romulan KRs, and three Kzinti strike cruisers. So long as the usage is consistent and known to the opponent, any substitution of counters is acceptable. Note, however, that it would be confusing to have both players using counters from the same empire/nation. Additional counters are available (Z36.1).

(A3.22) THE MAPSHEET (PLAYING BOARD)

(A3.221) The map used in *STAR FLEET BATTLES* is overlaid with a hex grid, used to regularize the position of each ship and its distance to other ships.

Players may, if they wish, obtain a larger hex grid or additional maps (Z36.1), to expand the field of play if they are using large fleets, but the map included with the game should be adequate for all scenarios. (Some players cut the map into six sections so that, if their battles tend to drift one direction or the other, the map can be "leapfrogged" in front of the action. Do not do this unless you are certain that you want to.)

If you obtain a mapsheet somewhere else, check to see how it is numbered. On the standard *STAR FLEET BATTLES* maps, the odd-numbered columns are "above" the even-numbered ones. On some other maps this is the reverse, having the effect of shifting all units in odd-numbered columns "down" one hex, creating some amusing problems.

Alternatively, if one unit moves off the map, all ships can be shifted enough hexes to one side to correct the situation (S1.43).

(A3.222) Players should note the two directional displays on the map. One is composed of numbers, the other of letters. These are used to determine direction. Players should refer to the movement rules (C1.21) for explanation of the use of these displays.

(A3.23) UNIT CATEGORIES: The terms "ship" and "unit" are critical to the way the *STAR FLEET BATTLES* rules are written. All ships are units, but not all units are ships.

The most basic category is a COUNTER or playing piece. There are two types of these: units and markers.

A MARKER is an informational item. Markers include planets, asteroids, and (in later products) such things as explosions, wild unit markers, cloak markers, and so forth.

A UNIT is a something that actually does something. All are either machines (ships, bases, fighters, etc.) or living beings (monsters). Units include ships, shuttles, seeking weapons, mines, and monsters.

SEEKING WEAPONS include drones, plasma torpedoes, and seeking shuttles. See (F0.0). Seeking shuttles are seeking weapons in some regards and shuttles in others. Some drones are self-guiding, while all plasma torpedoes are.

SHUTTLES include fighters and non-fighter shuttles. Non-fighter shuttles include Administrative Shuttles and (in later products) other types.

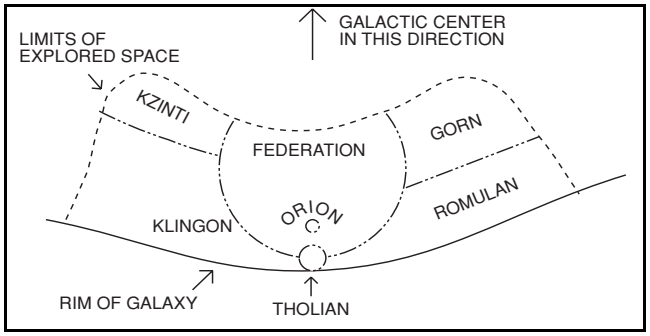
SHIPS include PFs (fast patrol ships, see *Module K*) and bases, unless stated otherwise. PFs includes the sub-category of Interceptors (K3.0). Bases include those with positional stabilizers (all of those in *Basic Set* have them) and those without.

<table>
<tr><td colspan="13">UNIT</td></tr>
<tr><td>Monster</td><td colspan="3">Seeking Weapon</td><td colspan="4">Shuttle</td><td colspan="4">Ship</td><td>Mine</td></tr>
<tr><td>Monster</td><td colspan="2">SGSW</td><td>Non-SG</td><td>Seeking Shuttle</td><td colspan="2">Non-Ftr</td><td colspan="2">Fighter</td><td colspan="2">PF</td><td>Ship (except)</td><td colspan="2">Base</td><td>Mine</td></tr>
<tr><td>Monster</td><td>Plasma</td><td colspan="2">Drone</td><td>SP SS</td><td>Adm</td><td>Other</td><td>Std Ftrs</td><td>Heavy Ftrs</td><td>INT</td><td>PF</td><td>Ship (except)</td><td>with Stab</td><td>without Stab</td><td>Mine</td></tr>
</table>

SGSW = Self-guiding seeking weapon; SP = Scatter-Pack; SS = Suicide Shuttle; INT = Interceptor; PF = Fast Patrol Ship.
The exceptions under ships refer to cases where the terms "ships but not bases" or "ships not including PFs" are used.

(A3.3) BACKGROUND

As can be seen from the map (below), the empires portrayed in the game occupy a rather small area on the edge of the galaxy. Background material for the individual empires is included in section R. More empires are added to the game by *Modules C1*, *C2* (and eventually *C3*).



The chronology below describes the major events of the game universe.

YEAR EVENT

1.....First contact between Humans and their nearest neighbors (Vulcans).
4.....Formation of the Federation.
40-46.....The first Romulan War (between Federation and Romulan Star Empire).
45 .....Introduction of the cruiser design by the Federation.
46 .....The Romulan-Federation ceasefire.
50-82.....First Klingo-Kzinti War.
62 .....Federation begins conversion of cruisers to warp power.
62-67.....All empires (except the Romulans and Paravians) develop warp-powered ships.
71.....Federation Star Fleet is formed, member nations begin disbanding their "national" fleets in favor of the unified fleet.
79.....Tholians arrived and occupied an area claimed by the Klingons.
82.....Klingons win First Klingo-Kzinti War, depriving Kzintis of three key colony planets.
83.....Klingons encountered the newly arrived Tholians and began the first of several wars in their continuing attempt to destroy them.
102.....Federation declares its formal (circular) border. Numerous border skirmishes are fought with the Klingons and Kzintis.
103-106.....Second Klingo-Kzinti War is won by the Kzintis, regaining the three planets.
110-111.....First war between the Federation and Klingon Empire. The war is bitter, but inconclusive.
113.....The Federation completes the disbanding of the "national" fleets in favor of the unified Star Fleet. Sixteen Orion starships (of various types) with almost 9,000 skilled crewmen mutiny and disappear. They form the nucleus of the Orion Pirates.
123-131.....Third Klingo-Kzinti War. Inconclusive results.
150-170.....Primary time frame of the ships in *Basic Set* and of the original film background.
154-155.....Second Romulan War (between Romulan Empire and Federation) results in a treaty of the Neutral Zone.
156.....Second War between Federation and Klingon Empire ends in the Organian Treaty.
157.....Initial confrontation between the Gorns and the Federation ends in Treaty of Friendship.
158-162.....Fourth Klingo-Kzinti War. Results inconclusive.
159.....Klingon-Romulan Treaty of Friendship is signed. Klingons begin supplying advanced technology to Romulans, resulting in greater pressure on Federation border. Federation transfers main

fleet units from Klingon border to Romulan border, releasing Klingon ships to fight Kzintis.
160.....First KRs and K5Rs delivered to Romulans.
161.....Kzintis introduce Attack Shuttle. This early fighter cannot guide its own drones and is considered only a manned drone launch platform.
162.....Romulans begin conversion of Warbirds to War Eagles.
164.....Kzintis deployed the Advanced Attack Shuttle, which was able to guide its own drones. The concept of dedicated fighter carriers (rather than simply adding a couple of fighters to standard warships) began.
165.....Kzintis launch the first of a class of shuttle carriers.
166.....Federation-Kzinti Articles of Agreement.
168.....All empires begin introducing new ship classes and preparing for the coming war.
168-185.....The First General War. All of the empires in *Basic Set* (and several in *Module C1*) are involved in a very destructive war that covers most of the known regions of the galaxy.
186-187.....The ISC (in *Module C2*) attempt to save the warring galaxy from itself by occupying most of it.
188.....The Andromedans (*Module C2*) invade the galaxy.
202.....After a long campaign, the Andromedans are defeated.

Some locally operated campaign games are set within certain time periods, limiting the ships and technology available.

(A3.4) GAME SCALE

Each hex in *STAR FLEET BATTLES* represents an area 10,000 kilometers across. Movement at a speed of one hex per turn equals movement at the speed of light. Thus, each turn represents 1/30 of a second of subjective time. However, using relativistic variable time distortion, the time elapsed during a turn appears to the crew inside the ship to be about a minute.

(A3.5) FRACTIONS

Many of the calculations in the game will produce fractions. If not otherwise stated, drop fractions of 0.499 or less; round fractions of 0.500 or more to the next higher number.

Note that in cases where a fraction can be used, the fraction is not rounded up or down. An example is Commander's Options in which fractions might be used to purchase a round of transporter artillery (0.25) or a truck (0.20).

(A4.0) THE CADET'S GAME

Players unfamiliar with *STAR FLEET BATTLES* should begin by playing the "Cadet's Game." (This is sometimes known as the "beginner's game.") This involves only certain rules sections (less than 10% of this rulebook) which are not otherwise marked. Reading them will allow you to play, within an hour or two of opening this volume, a battle between a Federation heavy cruiser and a Klingon D7 battlecruiser. Once you have played that scenario (perhaps two or three times), you will, no doubt, be anxious to read and master the remainder of the rules.

(A4.1) FIRST CADET SCENARIO: COMBAT WITH PHASERS

Read the following rules:
(B2.1), (B2.3), (B3.0),
(C1.1), (C1.2), (C1.31), (C1.4), (C2.0), (C3.0),
(D1.0)-(D1.4), (D2.0), (D3.0) except (D3.5)-(D3.6), (D4.0),
(E1.0), (E2.0),
(H1.0) through (H6.0)
(R2.4), (R3.4),
(S1.0), and (SG1.0).

Read the indicated sections and play scenario (SG1.0) NOW, before going on to read any other sections. Then play the Second Cadet Scenario (A4.2).

You will be using phasers only for this scenario. Without the heavier photons and disruptors it will be all but impossible to destroy the enemy, but the point is to learn the concepts of maneuver and the mechanics of firing weapons.

Anything on the SSD sheet which is not within these rules can be ignored. If your opponent destroys it, assume that you weren't planning to use it anyway so it's not important.

Play this scenario only once, and stop after 5 or 6 turns. By that time, you will be ready for more advanced combat.

For all of the Cadet Scenarios, assume that this is a "peacetime" patrol encounter and that either ship can "concede" at any point. The ship that concedes will then leave the area and the other ship is the victor.

(A4.2) SECOND CADET SCENARIO: COMBAT WITH HEAVY WEAPONS

Read rule sections (E4.0), (E4.1), and (E4.2) regarding photon torpedoes. If you aren't sure you understand them completely, play a battle (SG1.0) between two Federation CAs to get a feel for arming and firing the photons.

Then read rule sections (E3.0), (E3.1), (E3.2), and (E3.3) regarding Klingon disruptors. If you aren't sure you understand them completely, play a battle (SG1.0) between two Klingon D7s to get a feel for arming and firing these weapons.

You are now ready for the basic duel of *STAR FLEET BATTLES* between a Federation CA and a Klingon D7. Read the description of such a battle in (A5.0) and then try it for yourself. The battle in (A5.0) uses the Cadet (A4.2) rules plus the rules for overloaded weapons. This was done because overload range (8 hexes) is a key tactical consideration.

(A4.3) THIRD CADET SCENARIO: COMBAT WITH SEEKING WEAPONS

Read the following rule sections on drones:
(F1.1), (F1.21), (F2.11), (F2.12), (F2.2), (F2.3), (F3.1).
(FD1.1) through (FD1.4),
(FD1.51) through (FD1.55) [skip (FD1.53)], (FD1.6).
(FD3.1), (FD4.1), (FD4.2), (FD5.3).

Ignore (FD2.0). The two drone racks on the Klingon D7 each hold 4 drones and can launch one per turn. They cannot launch a drone within 8 impulses of a drone launched by the same rack on the previous turn. Each drone is speed 20, takes 4 damage points to destroy, and does 12 points of damage to the ship if it hits it.

Then play scenario (SG1.0) again, this time allowing the D7 to use its drones. After playing this a few times, you can read rule sections (FD1.56) [but not (FD1.561)] and (F2.5) and allow the Federation CA to use the one drone rack provided in its refit (see the SSD).

When you are familiar with drones, read the following:
(FP1.1) through (FP1.6).
(FP2.3) and (FP2.5).
(FP3.1), (FP4.1), and (FP4.2).

Then play scenario (SG1.0) again using a Gorn CA (without the refits) against either the Federation CA or the Klingon D7. (Play at least once with each.)

(A4.4) ASSUME COMMAND!

AFTER reaching this point, return to the rules and read those sections that immediately capture your interest. Some suggestions include:
Overloaded weapons (E3.5) and (E4.4).
Cloaking Devices (G13.0).
Other ships: Romulan KR (R4.4), Kzinti CS (R5.2).

After playing another scenario or two, stop and read all rules that are NOT marked as Advanced, Optional, or Commander's Level. These other rules can be added later, after you have mastered the Standard Rules.

(A5.0) SAMPLE GAME

New players may feel overwhelmed by the mass and seeming complexity of the rules. Rest assured that the extensive rules are provided because players who have learned the game want to explore every aspect of starship operations, and those who are terrified at this point will shortly be reaching for more and more rules as they take their starships into uncharted territory. For now, however, the problem is to actually begin playing and to begin learning just what all of these rules are for. [NOTE: Read section (A4.0) and the rules designated in it at this time.] We shall observe Bill and his friend Jane as they play scenario (SG1.0).

Bill, commanding the Federation CA, notes that he is 44 hexes from the Klingon D7 commanded by Jane. He has 34 units of power available (30 warp engine, 4 impulse engine, no reactors) and his 4 batteries are full. He must now allocate this power. At such a long range, the first decision must relate to movement, because if he wants to move much closer to the D7, it will take a lot of power. However, he does not wish to close the range during this turn because his photon torpedoes (which take two turns to arm) cannot be ready until Turn #2.

Therefore he allocates his 34 points as follows: 1 to life support, 1 to fire control (both required), 6 to phasers (he knows he will not be able to fire them all, but wants to store the energy in the capacitors for next turn), 8 to photons (2 points to each of the four), 2 to activate the shields, 12 to reinforce the #1 shield (to discourage long-range Klingon sniping), and 4 to movement. He knows that even if the Klingon moves at a speed of 31, his ship can avoid the 8-hex range of overloaded disruptors.

Jane is aware of the arming rate for photon torpedoes and guesses that Bill will not move very quickly. She wants to be able to score at least some damage. She has 39 units of power (30 warp, 5 impulse, 4 reactor) to allocate and does so as follows: 1 to life support, 1 to fire control, 7 to phasers (less than the maximum of 9, but she plans to run straight in and won't need the right side phasers, and wants to maximize power output on this turn), 8 to disruptors (non-overloads), 2 to raise the shields, 6 to reinforce the front shield, 2 to reinforce the #6 shield, and 12 to move. Her batteries remain fully charged.

When speed is announced, both players immediately realize that the other is playing a fairly standard strategy. For our purposes, both will move straight ahead, and since the chances of a hit are continually improving, neither will fire until the last impulse. At that point, the D7 has moved 12 hexes and is in 3009. The CA has moved 4 hexes and is in 1128. The range is 28 hexes. The Klingon ship fires disruptors (die rolls 1-2-4-5, two hits, total 4 damage points) and the four facing phasers (die rolls 2-3-4-6, one hit, total 1 damage point) for 5 damage points. This reduces the Federation ship's reinforcement, but since that energy is expended and reallocated each turn, the tactical result is meaningless. (Indeed, Jane wasted the four points of phaser energy.) The Federation ship does not fire, saving its phaser energy.

On Turn #2, the tactical advantage shifts to the Federation, as its photon torpedoes will now be armed. Since the ships are still 28 hexes apart, and must close to 8 hexes or less to use overloaded weapons, both players must make a critical choice about their speed. The Federation ship, which must use warp energy for its photons, can move at a maximum speed of 23 while charging photons, or at a lower maximum speed if overloading them. Jane, who knows the rules and how to subtract, is aware of this fact. While her D7 does not need warp energy for disruptors, the demand for overload energy (16 points) will inevitably use much of her warp power. Paradoxically, if both overload their weapons to the maximum extent, it is possible that they will not be within the maximum range of overloaded weapons!

Bill decides to overload his weapons, while Jane decides to leave her weapons on standard settings.

Bill's energy allocation: 1 to life support, 1 to fire control, 0 to phasers (all are still charged), 16 to photons (2 to torpedoes 1 & 2, standard loads, and 6 each to 3 & 4, full overloads of 8 points each counting the 2 points on the previous turn), 2 to raise shields, 0 to reinforcement (a risky choice since any damage will mark off boxes), and 14 to movement.

Jane's energy allocation: 1 to life support, 1 to fire control, 6 to phasers (3 points are left in the capacitors from last turn), 8 to disruptors, 2 to raise shields, 7 to reinforce shield #1, 2 to reinforce shield #6, and 12 to move.

Bill does some quick arithmetic. With combined speeds of 26 and a starting range of 28, the two ships will come within range of his overloaded photons. Jane reaches the same conclusion. Bill determines to close the range.

The two ships then begin moving. Both move on Impulse #3. The D7 turns right (having fulfilled its turn mode on the prior turn). This is not a retreat but a plan to keep the range open. On Impulse #11, the D7 (in 2708) turns to move to 2608. The CA is in 1625. By Impulse #19, the D7 (in 2409) turns to 2410. The CA is now in 1924. At the critical Impulse #25 (critical because weapons fired after that point cannot be fired on Impulse #1 of the next turn; this is known to *SFB* veterans as the Impulse of Decision), the CA is in 2123 and the D7 is in 2412. The CA fires its two left phasers (die rolls 3-4, one damage point absorbed by reinforcement) because he plans to turn and these phasers will no longer have a target. On Impulse #30 the ships are in 2120 and 2414, a range of only 7. Both players know that they will not reach a range of 4, and their heavy weapons will be no more effective at range 5 than range 7 (or 8 for that matter), so both fire. (Bill should have realized that while his photons would be no more effective at range 5 than range 8, his phasers would have been devastating at range 5. Perhaps Bill was afraid that Jane would turn away if he did not fire soon?)

Bill fires two standard photons (2-5, one hits, 8 damage points), two overloaded photons (1-3, both hit, 32 damage points), and 4 phaser-1s (2-3-4-6, total 8 damage points) for a total of 48 damage points. These penetrate the shield and its reinforcement, scoring 11 points of internal damage, 2 of which destroy warp engine boxes.

Jane fires 4 disruptors (1-2-4-6, 3 hits, 9 damage points) and 4 phaser-2s (1-2-3-4, total 7 damage points) for 16 damage points, destroying more than half of the CA's front shield.

On the final impulse, the CA moves to 2119, while the D7 turns to 2315, firing its three remaining phasers (1-2-3, 6 damage points), reducing the front shield to only 8 boxes.

The third turn becomes critical. The Federation ship cannot arm photons in one turn and has a choice of standing still (using the energy to reinforce the shields) or trying to run. The Klingon will be able to fire overloaded disruptors on Impulse #6.

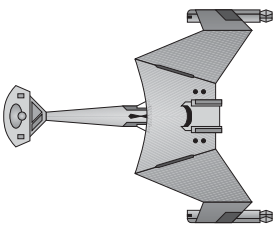
Bill's allocation: 1 to life support, 1 to fire control, 6 to phasers, 8 to photons, 2 to raise shields, 20 points (including batteries) to reinforce the front shield, no movement.

Jane's allocation: 1 to life support, 1 to fire control, 6 to phasers, 16 to disruptors (overloads), 10 (including two of the batteries) to general reinforcement (because she cannot reinforce shield #1, which is down), 5 to movement. (The other two points were lost in the damage received.)

On Impulse #6 (when both can fire), neither ship has moved. The CA fires four of its phasers at the D7 (1-2-4-6, total 11 damage, which removes the general reinforcement and scores 6 points on shield #6). On Impulse #13, the D7 has reached 2116. It fires four disruptors (2-2-3-5, three hit, total 24 points damage) and six phaser-2s (1-2-3-4-5-6, 21 points damage) for a total of 45 points, enough to destroy the reinforcement (20), knock down the shield (8), and score 17 points of internal damage. Bill fires his remaining two phasers (which just came into firing arc) and rolls a 3 and a 4 for 8 points of damage on the D7's #6 shield. The D7 continues to 2018. At this point-blank range, the two ships will savage each other with overloaded weapons on the next turn. The players are left to work this out for themselves.

Both Bill and Jane are obviously novice players as their tactics consist of little more than closing and firing. Bill's decision to bring his ship to a complete stop gave Jane the tactical initiative, but she was unable to capitalize on it.

If you still do not understand the game, see (Z3.0).



END OF SECTION (A0.0)

(B0.0) HOW TO PLAY THE GAME

(B1.0) GENERAL RULES

This section details the Sequence of Play (the exact order in which the actions of the game take place) and the rules for Energy Allocation.

(B2.0) SEQUENCE OF PLAY

(B2.1) GENERAL

STAR FLEET BATTLES is played in turns, of which there may be almost any number in a given scenario. Each turn consists of several phases, some of which are broken down into several segments and/or impulses. Each turn consists of several steps (primarily planning and the launching of some weapons types) followed by a number of impulses during which movement and combat take place.

(B2.2) OUTLINE OF THE SEQUENCE OF PLAY

1. ENERGY ALLOCATION PHASE
2. SPEED DETERMINATION PHASE
3. SELF-DESTRUCTION PHASE
4. SENSOR LOCK-ON PHASE
5. INITIAL ACTIVITY PHASE
6. IMPULSE PROCEDURE
    - A. MOVEMENT SEGMENT
    - B. IMPULSE ACTIVITY SEGMENT
    - C. DOGFIGHT RESOLUTION INTERFACE
    - D. DIRECT-FIRE WEAPONS SEGMENT
    - E. POST-COMBAT SEGMENT
7. FINAL ACTIVITY PHASE
8. RECORD KEEPING PHASE

(B2.3) SEQUENCE OF PLAY EXPLANATION

This section describes the basic operation of the Sequence of Play and the turn procedure. Note that a more detailed listing of all actions that can be taken during the Sequence of Play, in the specific order in which they occur, is given in Annex #2.

1. ENERGY ALLOCATION PHASE: Each player, for each ship that he controls, fills out the next available column on the Energy Allocation Form for that ship. Refer to the Energy Allocation Rules (B3.0). It is by the allocation of energy that players determine, in this phase, what the speed of their ships will be during the current turn and what equipment and weapons may be operated.

2. SPEED DETERMINATION PHASE: The speeds for all ships (as well as drones, shuttles, plasma torpedoes, and any other moving objects) are announced or determined. During this phase, the controller (C1.44) prepares his control sheet.

3. SELF-DESTRUCTION PHASE: Ships that are plotted to self-destruct do so at this time, and the effects of the blast are applied immediately to any ships within range of the blast. Refer to rule (D5.0).

4. SENSOR LOCK-ON PHASE: All ships (and other units) which wish to fire at enemy units during the current turn, or which are controlling seeking weapons on the map targeted on other units, MUST attempt to achieve a sensor lock-on at this time. Refer to rule (D6.1). This is resolved with a single die roll for each ship attempting lock-on for all of that ship's potential targets. The effects of the lock-on or failure to lock-on will last for the entire turn. A given unit will either have a lock-on to every other unit on the map, or to none of them. Note that in the case of ships that have not suffered sensor damage, lock-on is automatic. Some effects such as electronic warfare (D6.3) or planets (P2.0) could block or reduce the quality of a lock-on. Note that in some advanced rules your fire control may be in an inactive state, leaving you without any lock-ons.

5. INITIAL ACTIVITY PHASE: During this phase, players take certain actions, such as tractor rotations, undocking from bases, variable pulsars, assigning guards, etc. See Annex #2.

6. IMPULSE PROCEDURE: The movement/combat portion of the turn is divided into 32 impulses. The following steps are repeated in each of those 32 impulses.

A. MOVEMENT SEGMENT: The ships that will move in the current impulse are determined by the controller from the movement chart (see separate sheet). This information is announced to all players. Each player whose unit is to move in this impulse moves it one hex within the limits of the ship's turn mode [or in accordance with his pre-plotted movement (C1.32)]. Note that "seeking" weapons have special rules for movement (F2.2). Also note that the impact of seeking weapons is determined, and any resulting damage resolved, at the end of the Movement Segment.

B. ACTIVITY SEGMENT: This segment is used for activities that take place during the Impulse Procedure, such as transporter operations, laying mines, launching shuttles or seeking weapons, recovering shuttles, or other activities specified by the rules. These activities take place in a specific order shown in Annex #2. This data is shown in an Annex so that it can be replaced and updated in advanced products.

C. DOGFIGHT RESOLUTION INTERFACE: This special section, dealing with fighters, happens only in certain impulses. For more information see *Module J*.

D. DIRECT-FIRE WEAPONS SEGMENT: Players determine for each of their units if it will fire any of its weapons during this impulse. This is done secretly and simultaneously; see (B2.4). Players then simultaneously announce for each of their units if they will fire, and if so, which weapons and at which targets. [All players must indicate that they have made their decisions (on weapons and EW changes) before any announcements are made. Once announcements begin, the decisions cannot be changed. In a complex or hard-fought game, players might give their detailed firing orders to a non-playing referee.] Weapons are then fired in any convenient order in accordance with the rules on combat (D0.0). Damage is assumed to be simultaneous, i.e., a weapon committed to fire may still fire if it is destroyed by a weapon firing in the same segment of the same impulse.

E. POST-COMBAT SEGMENT: Certain decisions and announcements, detailed in Annex #2, are done at this time.

The Impulse Procedure is repeated for each impulse of the current turn. When all 32 impulses are completed, return to the Sequence of Play and proceed with the Final Activity Phase.

7. FINAL ACTIVITY PHASE: See Annex #2 for details of actions and announcements made at this time.

8. RECORD KEEPING PHASE: See Annex #2 for a detailed list of the actions and announcements made at this point.

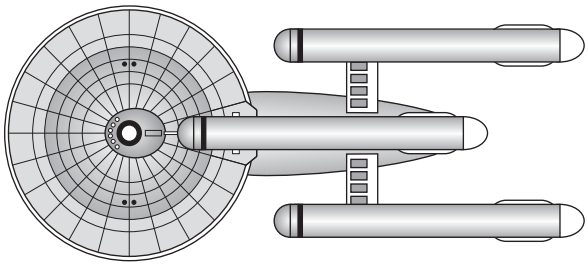
After completion of all activities of a given turn, the turn is complete and the next turn is begun. The Sequence of Play is repeated for each turn until the scenario is over. Various events (such as the arrival of additional units) may take place in specific turns.

NOTE: The expanded Sequence of Play listing in Annex #2 has been carefully written to show the EXACT and SPECIFIC order in which the actions of a turn or impulse are to be taken. Careful study of this listing will answer many questions about the rules. The order is specifically intended to prevent (or allow) certain actions from happening on the same impulse.

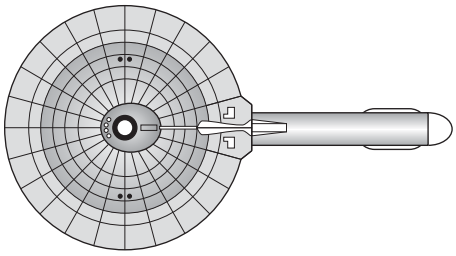
(B2.4) SIMULTANEOUS ANNOUNCEMENTS: PROCEDURES AND POLICIES

At several points in the Sequence of Play, players will be required to make "secret and simultaneous" allocations of resources or commitments to take certain actions. The most obvious is the use of direct-fire weapons in step 6D above, but many others (launching drones, using transporters, etc.) exist and will become obvious as players become familiar with the game.

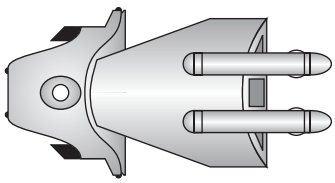
The problem with "secret and simultaneous" is that it requires written records, and these can become a tiresome chore when trying to play a game for relaxation and entertainment. Many players do not bother with written records, but simply make their decisions in their heads and then make the announcement simultaneously. The problem is that it doesn't turn out to be simultaneous.



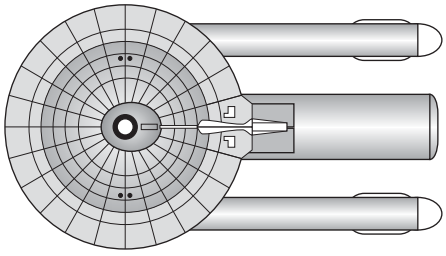
FEDERATION DREADNOUGHT



FEDERATION DESTROYER



FEDERATION OLD-TYPE LIGHT CRUISER



FEDERATION FLEET TUG

Imagine, if you will, two ships heading straight toward each other. Their weapons become more effective as the range closes. If they both fire at the same time, they will both take the appropriate damage. If one player fires earlier, however, he will be gambling on less effective weapons penetrating the enemy shield and destroying some enemy weapons before those weapons can fire on the next impulse (or a later one). It isn't difficult to see that whoever makes a non-written announcement first is placing his life in the enemy's hands, as that enemy can then decide to fire simultaneously (claiming he had intended to do so anyway) or decide to withhold fire, take his chances, and smash his opponent with close-range fire a few impulses later. This phenomenon is known as "me too firing" and, while often used in a friendly game, can cause hard feelings in a fiercely competitive tournament or campaign. This does not mean that *SFB* players are inherently dishonest; it is simply human nature to make each decision with whatever information is on hand at the time. Some players report that they experience more tension from the temptation to change their decisions than anything else in the game.

Some players seek a middle ground, asking each other only if they will fire and then writing down the orders. Sometimes, a coin or die hidden behind the hand, or a card marked "fire" on one side and "no fire" on the other and covered by one's hand, can be used instead of a verbal announcement.

While this avoids having to write down fire orders (or dummy fire orders) 32 times per turn, it can also reveal more information than is good for your career. In the case above, one player might announce firing (without revealing that he plans to fire a ph-3 on the rear of his ship toward a drone) in an attempt to get the opponent to panic and fire everything before optimum range.

Probably the best solution is provided in *Captain's Module A+: Captain's Yeoman,* i.e., the two sets of Command Cards found in that product). Each player holds his set of cards and simply lays down one or more of them each impulse, exposing them to indicate what (if any) weapons he has decided to fire. Players who do not have *Module A+* can easily create such a system for themselves with a few index cards.

Whatever system you use, it probably will not be necessary to go through the motions on all 32 impulses of every game. During some times, the ships will be far apart but moving together and it will be obvious that no one wants to fire at such a long range. At other times, both players will have fired every weapon they own and agree to simply play out the rest of the turn without bothering with pointless fire declaration steps. While this informal system speeds the game (and makes it far less tedious), players should keep a careful eye on the situation and announce well in advance that "I am going to want a fire decision step on this impulse." This will avoid hurt feelings if Player A feels he missed a chance to fire while Player B (who already moved for Impulse #22 because Player A did not say quickly enough that he wanted to fire on Impulse #21) wonders if Player A wouldn't want to fire if Player A did not already know where Player B would have moved to if Player A had not fired. (Did you understand all that? Good! Write us a letter and explain it to us.)

It is only human nature to look out for your own interests. When playing competitive games, or with new opponents, take every precaution to avoid hurrying or delaying your opponent into (or out of) a decision. Simple politeness ("You seem to be mulling this over, Fred. Are you trying to make up your mind or wondering why I am taking so long to call the next impulse?") will usually overcome any confusion.

Above all else, remember that this is a game that you are trying to enjoy, not a competition that will determine the course of your life. Fair play and reasonableness should prevail. If you learn nothing else from *STAR FLEET BATTLES,* at least try to learn how to get along politely and fairly with people who are trying their darndest to kill you.

(B3.0) ENERGY ALLOCATION

The heart of the game is in the energy allocation rules. Here players must determine how much power (energy) is available and how to use it most wisely. You will never have as much power as you have uses for it.

(B3.1) PROCEDURE

Energy is calculated and allocated on an Energy Allocation Form. There are several of these included with the game. Players should use plastic page protectors and grease pencils or photocopy extra copies of this form for use in the game. Packages with extra copies of the EAF are available for sale in some hobby stores. Each turn during the Energy Allocation Phase, each player, for every starship he controls, must fill out the next column of his EAF.

Special Energy Allocation Forms for use by specialized units are provided in *Module R1*. The Andromedans in *Module C2* have their own special Energy Allocation Form. Specific instructions for filling out the form are given on a line by line basis, as follows:

1. WARP ENGINES: This is the amount of warp engine power available. Simply count the unchecked warp engine boxes on the ship's SSD. For example, the Federation cruiser starts with 30, the Kzinti strike cruiser with 27, and the Gorn heavy cruiser with 32. This number may be reduced by damage. See (H2.0) and (G15.2),

2. IMPULSE POWER: This is the amount of power available from the impulse engines (H3.0). Again, simply count the number of unchecked boxes. (The Federation heavy cruiser has four.)

3. REACTOR POWER: This is the amount of power from nuclear reactors (H4.0). The Klingon D6 battlecruiser has two reactor boxes on its SSD. The Federation command cruiser also has two, but the Federation heavy cruiser has none (although two are added with a later refit).

4. TOTAL POWER: This is the total amount of power available from all sources other than batteries. At the start of a scenario, an undamaged (and unrefitted) Federation heavy cruiser will have 34 units of power, a Federation command cruiser 36, a Klingon D6 battlecruiser 37, and a Gorn heavy cruiser 38. Assuming that the ship has not been damaged, line 4 will have the same number each turn.

5. BATTERIES AVAILABLE: This is the amount of battery power (H5.0) available for use. Note the value of leaving some or all of these batteries unused as detailed in (H7.0). The effective use of reserve power is one of the most important skills to master if you plan on winning your battles.

6. BATTERIES DISCHARGED: This is the number of batteries that have previously been used. The total of 5 and 6 will always equal the number of undestroyed battery boxes on the SSD (or their capacity in some advanced cases). At the beginning of a scenario, the batteries will all be charged. Careful players save their batteries until the ship is heavily damaged and use them to fill in, temporarily, for destroyed engines. Skillful players, however, use their batteries constantly for that one additional unit of power that can be critical. Batteries destroyed in combat are presumed to have been those previously discharged, if any such batteries exist.

7. LIFE SUPPORT: You MUST allocate energy to life support or your entire crew will perish immediately. The life support cost for a ship depends on its size class. The size class of each ship is shown on the MASTER SHIP CHART and on each SSD; the life support cost for each size class is shown on the chart below (B3.3). Note that if a ship is crippled (S2.4) it can use emergency life support, which costs no power. Units that do not have any power, or do not have enough generated power remaining, to pay for life support also use emergency life support. Legendary Captains (G22.2) can also use emergency life support. If a ship is being boarded and no one has control for EA purposes, the ship operates under Emergency Life Support. It is specifically not possible to turn off life support (to a specific area, or to the entire ship) to cause enemy crew units to die, even if you are sacrificing your own crew units in the process.

8. ACTIVE FIRE CONTROL: One unit of power will operate the scanners and sensors for the current turn; see (D6.6). A half unit of power will provide Low-Powered Fire Control (D6.7), but this is severely restricted. If no power is allocated to this line, you cannot have a lock-on and weapons MAY NOT BE FIRED. [Passive Fire Control (D19.0) in *Advanced Missions* might allow firing in some cases.] Seeking weapons may lose their tracking and be removed, see (FD5.0).

9. PHASERS: Energy for phasers is explained in the rules on phaser capacitors (H6.0).

10. TORPEDOES: This line is used for photon torpedoes, plasma torpedoes, disruptor bolts, and other heavy weapons. The allocation of energy for each launching tube (system box) is recorded separately on one line here. The specific method of allocation for each weapon type is covered within the rules on that weapon type.

11. SHIELDS: Shields may be operated at "minimum" or "full" power. The cost for each depends on the size class of the ship, as is shown on the chart in (D3.32).

12 GENERAL SHIELD REINFORCEMENT: Any amount of available power may be applied here; see (D3.341).

13. REINFORCE SHIELDS: Energy may be added directly to one or more specific shields. For more information on reinforcement, see (D3.342).

14. MOVEMENT: Energy is required to move the ship. This energy can come from either warp (H2.0) or impulse (H3.0) engines. No more than one unit of power can come from impulse engines; see (C2.111). Warp engine energy provides movement at a rate specified for each ship. Basically, the amount of warp engine energy allocated is divided by the movement cost for that ship to yield the number of movement points provided. For example, the Gorn CA has a movement cost of 1, so 17 points of warp engine energy will provide 17 movement points. The Federation DN has a movement cost of 1+1/2, so 18 points of warp engine energy will provide 12 movement points. The Klingon F5 has a movement cost of 1/2, so 13 points of warp engine energy will provide 26 movement points. No more than 30 movement points can be provided by warp engines; see (C2.112).

15. DAMAGE CONTROL: This line is used to allocate energy for damage control; (D9.2) and (D14.0).

16. RECHARGE BATTERIES: Energy allocated on this line will recharge previously discharged batteries. See the rules on batteries (H5.0) and (H7.0).

17. TRACTOR AND NEGATIVE TRACTOR BEAM: Energy allocated here is used to tractor various objects or to prevent the ship from being tractored. See (G7.0) for details.

18. TRANSPORTERS: Power allocated here is used to operate the ship's transporters. See (G8.0) for details.

19. Several lines are provided to allocate energy to miscellaneous systems not specifically listed above. Examples of these would include electronic warfare, cloaking devices, or shuttles.

20. TOTAL POWER USED: This line is used as a final mathematical check to make sure that you have allocated the correct amount of power. It also serves to determine if you have discharged any batteries.

21. BATTERY POWER USED: This is a record of the number of batteries that were discharged on the current turn. It is used to adjust lines 5 and 6 on the next turn.

NOTE: Except when specifically stated to do so, energy does NOT "carry over" from turn to turn.

EXAMPLE: If power was allocated to movement on a given turn, this power could not be used to move the ship on a later turn. If 7 units of power were allocated to a ship on Turn #5 and none on Turn #6, it would move 7 hexes on Turn #5 and would not move at all on

Turn #6. If energy was allocated to transporters on Turn #5, and not used, this power is lost and cannot be used to operate the transporters on any later turn. ONLY in the case of phasers [detailed in (H6.0)], batteries, multi-turn-arming weapons, and armed weapons being held is power carried over from one turn to a later turn. In some cases (e.g., photon torpedoes), energy must be expended over a period of two or more turns. The energy expended on each of those turns comes from power generated during each specific turn.

(B3.2) FRACTIONAL ACCOUNTING *(Advanced)*

Players willing to accept the increased workload may elect to retain all fractions when calculating energy requirements.

This rule is described in the *Tactics Manual* as one of two optional rules [the other is (C12.0) in *Advanced Missions*] which will usually mean victory when used by one player against a player who refuses to bother with them.

(B3.21) FRACTIONS: Fractions of energy points used for various systems may be combined. For example, a Klingon C8 dreadnought uses 1-1/2 energy points to move one hex and uses 1/2 of an energy point to fire a phaser-3. Therefore, two energy points (1-1/2 + 1/2 = 2) would be needed to perform these two functions, but without the fractional accounting system, three points would be required since all energy expenditures are rounded up.

(B3.22) STORAGE: All unused fractions of an energy point can be stored in batteries; otherwise they are lost. The fractions are subject to the normal storage limits; a battery can hold less but not more than one point of energy (with the exception of certain ships in other products). Thus, a battery could hold 2/3 of an energy point but not 1-1/3.

(B3.3) LIFE SUPPORT COST CHART

The amount of life support required by a given ship depends on its size, as shown on the chart below:

SIZE CLASS	LIFE SUPPORT ENERGY COST
1	3
2	1-1/2
3	1
4	1/2
5	0

(B3.4) NON-EXPENDITURE

A player is never required to expend all of the power his unit generates. Some expenditures are required (e.g., without life support the crew will die), and some are required by certain functions (e.g., you cannot control drones without active fire control). It is possible that mandatory or required functions could consume all available power.

If a unit leaves part of its power output unallocated, it is simply assumed that the engine/reactor was operated at a lower power output and the unallocated energy was never created. This unallocated energy cannot be used for reserve power. A player would be better off to allocate it under (H7.4).

(B3.5) RECORDS

The Energy Allocation system, like many other parts of the game, requires players to keep written records of many things. These records are, unless otherwise noted in the rules, to be made available to the opposing player(s) at the end of the game to verify that no rules were broken and no creative accounting was involved.

If a ship is captured (D7.503) the capturing player takes possession of the SSD and EAF for that ship, along with any and all other records pertaining to its current condition.

END OF SECTION (B0.0) *BASIC SET*

(C0.0) MOVEMENT

(C1.0) GENERAL MOVEMENT RULES

Starships and other units move on the map by a combination of impulse engine power and warp engine power. The speed of most units in the game varies from turn to turn, depending on the amount of power which is allocated on any given turn for movement. Each hex moved into during the course of a given turn equals one times the speed of light. (Moving ten hexes during a given turn is equal to moving ten times the speed of light on that turn.)

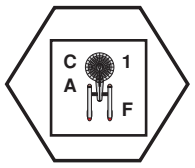
Players in this game determine the speed of their own ships during the Energy Allocation Phase by the amount of energy allocated to movement. (Certain other units such as shuttles and seeking weapons move at speeds defined in the rules.) The amount of energy allocated is limited by the rules (which restrict speed to a maximum of 31 for ships and shuttles, 32 for some other units), damage taken by the ship in previous turns (which may reduce power available), the restrictions on acceleration, and tactical considerations. (It may not be necessary or desirable to move completely across the map, and the power may be needed for other things, such as shields and weapons.)

Players may be more familiar with the term "warp factors." The speed of the unit (in multiples of c, the speed of light) is the cube of the warp factor. Thus, warp two is (2x2x2 =) eight hexes per turn, and warp three is (3x3x3 =) 27 hexes per turn.

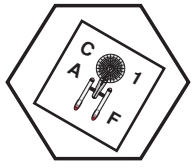
(C1.1) PROCEDURE

(C1.11) MOVEMENT: Units move from hex to hex on the mapsheet. Except in rare special cases [e.g., Black Holes (P4.0) or Nebulae ((P6.5)], a unit moves a maximum of one hex per impulse and will probably not move during every impulse.

(C1.12) HEXES: Each unit must always be within a single hex and must always be "faced" directly towards one of the six adjacent hexes.



CORRECT



INCORRECT

(C1.2) FACING

(C1.21) GENERAL: A unit may be faced in any of six directions. These directions are designated by the letters "A" through "F." Note hex #4002 on the mapsheet. Arranged around this hex are these letters. This is a standard element of many games, used to designate direction. Units moving in "direction A" (which might arbitrarily be called "north") move in the direction they would move in IF they were in hex 4002 and were facing toward hex #4001 (the hex with the "A" written in it.) Thus a unit in hex 0608 facing in direction A faces hex 0607, while a unit in 2210 facing in direction C faces hex 2311.

The terms "facing" and "heading" are used interchangeably in these rules.

Hex #0328 on the mapsheet is surrounded by six numbered arrows. These are used for various functions, such as determining a random direction.

(C1.22) MOVEMENT AHEAD: Units generally move in the direction they are facing. Units turn (C3.0) to face a new hex before actual movement, but the unit will always enter the hex it is facing except as follows: Tumbling (C6.551), movement while docked (C13.921), movement while linked by tractor beam to another unit (G7.36), random movement caused by black holes (P4.0) or nebulae (P6.5), movement in reverse [in which case the unit enters the hex opposite the direction it is facing (C3.5)], and sideslips (C4.0).

(C1.3) PLOTTING

Players use the directional notations to plot the movement of their units. Players may elect, by mutual consent, either "pre-plotted" or "free" movement. The free movement system is assumed to be the standard system within these rules.

The terms "pre-plotted" and "free" are the most common of several levels of plotting; see (C1.33) for more details.

(C1.31) FREE MOVEMENT: Under the "free" movement system [Level B under (C1.33) below], whenever the movement chart calls for a given unit to move, the owning player may move it in any direction or combination of directions he wishes, within the limits of the unit's Turn Mode and other rules. Some items are always plotted, and the unit MUST have a legal speed plot; see (C1.34) and (C1.35)

(C1.311) SIMULTANEOUS MOVEMENT: When using free movement, it is possible for two or more units to be moving in the same impulse. When this happens, both players might gain a considerable benefit from knowing the other player's move. (This is not a problem with plotted movement, since the movement of the units is committed in writing beforehand.) To resolve which unit moves first, use the Order of Precedence in (C1.313).

(C1.312) REVERSE MOVEMENT: The intended direction of movement (forward or reverse) must be recorded on the Energy Allocation Form when using free movement. If no direction is indicated, forward movement is assumed. An announcement is required at the point of speed declaration.

(C1.313) ORDER OF PRECEDENCE: The following chart shows the correct order in which to move units that are moving in the same impulse. Units perform HETs during the step where they move. A non-moving unit is (within its category), the slowest moving unit, so a Speed Zero ship will HET before other ships move in the ship step.

1. Monsters move.

1A. Change in Temporal Elevation (G31.152) except seeking weapons.

2. Ships move.

3. Nimble ships move (C11.0).

4. Fighters and shuttles (including those used as seeking weapons) move. If a shuttle is a seeking weapon and is targeted on another seeking weapon, the owning player has the option of declaring this fact (during the resolution of the order of precedence), in which case the shuttle moves in Step #5. In some cases, a seeking shuttle that has not been identified as a seeking weapon might be closing head-on with a faster shuttle on which it is targeted. If the seeking shuttle revealed its status (effectively saying, "no, YOU go first") the faster shuttle might be able to dodge the seeking shuttle (if it was a fighter, it might do this by a HET), which at such short ranges is impossible. This is resolved by moving the unrevealed seeking shuttle first, then the faster shuttle moves. Then, if the seeking shuttle could have entered the hex the targeted shuttle picked, the seeking shuttle's movement is retroactively changed to enter the hex of the target shuttle, impacting it. If the seeking shuttle's original pre-retro move entered the hex of the target, no detonation occurred; this could only happen after the true (i.e., retroactive) movement.

5. Seeking weapons move or change Temporal Elevator (G31.0) levels. (Note that impact is announced but not resolved until after base rotation and Tactical Maneuvers. This allows Tactical Maneuvers to be used to turn a stronger shield toward an incoming-seeking weapon. The weapon hits the shield *after* the rotation or Tactical Maneuver.) If one seeking weapon is targeted on another seeking weapon, the owner of the intercepting seeking weapon may announce this fact (during the resolution of the order of precedence); weapons known to be targeted on other seeking weapons move after their targets have moved, even if the intercepting seeking weapon is slower than the one it is targeted on. The announcement that a seeking weapon is targeted on another seeking weapon is made by the player controlling the seeking weapon at his discretion. He is not required to make the announcement at all, but must do so if he wants to reverse the normal order of precedence. This is normally done when the weapons are within one hex of each other.

6. Bases rotate (C3.7).
7. Ships make Tactical Maneuvers (C5.0).
8. Nimble ships make Tactical Maneuvers.
9. Fighters make Tactical Maneuvers. Non-fighter shuttles cannot do Tactical Maneuvers; see (C5.43).

Within these groups, the slower unit moves first. If the speeds are equal, the unit with a better Turn Mode category moves last. If speed *and* Turn Mode category is the same, both players write down their movement for that impulse only and expose these written orders simultaneously then execute them. Units moving solely by impulse power are considered to have the same Turn Mode within their speed category unless otherwise defined as nimble, e.g., a ship with a Turn Mode of F moving solely by impulse power has the same Turn Mode as a ship with a Turn Mode of AA also moving solely by impulse power unless one or the other is "nimble". This would require the two units to record their movement before executing it under (C1.311). A unit moving Speed 1 using warp power is considered to be faster than a unit moving Speed 1 by impulse power alone within their respective movement categories, but a nimble ship, even one moving under impulse power, would still move after a non-nimble ship.

The COMMAND CARDS provided in *Captain's Module A+: Captain's Yeoman* will facilitate this procedure.

When using plotted movement, this chart can be used to set the order for any non-plotted movement, such as Tactical Maneuvers.

NOTE TO NEW PLAYERS: Sections (C1.32) and (C1.33) should be ignored for now. These sections deal with a very complex form of movement planning (known as "pre-plotted movement") which is seldom used. These sections can, for all practical purposes, be treated as optional rules and can be totally ignored. These rules are included primarily for the benefit of players who grew accustomed to the pre-plotted movement system in the earliest editions of the game. Certain advanced rules may use these pre-plotted rules, but beginning players will not encounter those for a considerable time.

(C1.32) PRE-PLOTTED MOVEMENT *(Optional)*: Under the "pre-plotted" movement system [Level C1 under (C1.33) below], players must specifically plot the movement of their units for the current turn in advance, during the Energy Allocation Phase. Note that "seeking weapons" are not plotted, but follow their designated targets. A simplified notation is used, wherein "2A" indicates two hexes in direction A, and "4C" indicates four hexes in direction C.

Note that under all forms of plotted movement, it is not necessary to plot the launching of seeking weapons, launch of shuttles, firing of weapons, etc. See (C1.35).

EXAMPLE: A Klingon D7 battlecruiser is in hex 1021, facing hex 1122. The Klingon has decided to expend ten units of energy in movement on this turn. Since his movement cost is one energy point per hex, he will move ten hexes. A Kzinti strike cruiser is in hex 1520, facing hex 1420. The Klingon anticipates that the Kzinti ship will move slowly, if at all, on the current turn (due to tactical circumstances too complex to explain here). The captain of the Klingon ship wants to maneuver to bring himself behind the Kzinti ship, facing it at close range. He plots movement as (4C, 2B, 2A, 2F), a classic "Klingon Hook" maneuver. This movement will take him, successively, into hexes 1122, 1222, 1323, 1423, 1523, 1622, 1621, 1620, 1520, and finally to 1419. His theory is that if the Kzinti ship does not move, or moves very slowly, he (the Klingon) will get a shot at his flank shields and finally overrun him. (Note that the firing arcs of the phasers on a D7 make the hex directly behind it a particularly bad place to be.) If the Kzinti moves quickly, the Klingon will still get at least one good shot early in the turn. Note that if the Kzinti ship is badly damaged, this maneuver should bring the D7 within transporter range (for boarding purposes). Also note that if the Kzinti ship is very badly damaged, plotting movement that will end the turn adjacent to it is inviting that ship to self-destruct and possibly take the Klingon ship with it.

There are several possible variations of pre-plotted movement. The basic system, as described above, is functionally complete. The variations listed below are not required, but may be used to increase the perceived realism of the game.

(C1.321) HALF-TURN PLOTTING: Plot the movement for each turn at the mid-point of the previous turn. (When a scenario begins, players plot the first turn, then, on Impulse #16, plot the entire second turn.) After half of the impulses of a given turn (i.e., sixteen) have been played, plot movement (and fill out the Energy Allocation Form) for the next turn. This will require even more inductive reasoning (and shrewd second-guessing) than the basic system. It is possible that, at the actual start of a turn, there may not be sufficient energy to perform all planned activities. In this event, the programmed energy expenditures must be reduced to the level of power available; the process in (D22.0) Energy Balance Due to Damage must be followed until the imbalance is corrected. This is obviously a very complex procedure, and only a few players use it.

(C1.322) PURSUIT PLOTTING: When using the various "plotted" systems, a unit can be directed simply to "follow" a given ship (or other unit, or simply a specific hex on the map). If so directed, the unit is moved as if it were a seeking weapon (F2.2), although of course with its own speed and Turn Mode. Should it enter the hex occupied by the unit it is following and then be required (by its speed) to move out of that hex before the target does, it moves straight ahead one hex and then begins "pursuing" the target again. Appropriate units could use Emergency Deceleration (C8.0).

(C1.3221) Ships not using pursuit plotting may adopt it at any point in the turn by announcing the fact; it takes effect four impulses (1/8 turn) later. These rules can also be used to adopt or drop Evasion or station keeping plot (see below). Changing to pursuit, evasion, or station keeping plot will, of course, cancel the original movement plot.

(C1.3222) Ships using pursuit plotting may drop it at any point in the turn by announcing the fact. The unit is released from pursuing its target eight impulses (1/4 turn) later. It must plot the remainder of the turn at the time the unit is released from pursuit plotting.

(C1.3223) EVASION PLOTTING: A unit may also use evasion plotting, in which the unit always moves in such a way as to move farther from a given ship, unit, hex, or object. If it is not possible to get farther away, the unit must (if possible) move in such a way as to get no closer. See (C1.322).

(C1.3224) STATION KEEPING PLOT: A unit may also use station keeping plot, in which the unit always moves in such a way as to maintain (as nearly as possible) or attempt to restore the distance between itself and another unit, hex, or object (based on the distance at the start of the turn or adoption of this type of plot). The unit is not obligated to remain in any given direction or orientation from the target unit. ECM drones (FD9.0) use station-keeping plot during parts of their movement. See (C1.322).

(C1.3225) Units cannot plot pursuit or station keeping on any unit under friendly control unless the unit being followed is using plotted movement at the same level as the following unit. For example, you cannot plot pursuit movement on a probe drone (which does not use plotted movement) which you control.

(C1.3226) Note that while this form of plotted movement uses the same mechanics as "seeking weapons" (F2.2), this type of plot does not result in an impact or collision and is not distracted by scout sensors, chaff, wild weasels, going behind a planet, etc. If the object of the plot goes behind a planet, the following units will maneuver to fulfill the requirements while avoiding planetary collisions. If the object of the plot is destroyed, use (C1.3222) to drop the pursuit, continuing to pursue the hex that the target was destroyed in until entering that hex or until the eight impulse delay in (C1.3222) is complete.

(C1.3227) Station keeping, evasion, or pursuit plotting cannot be performed if a cloaked unit is the object of the plot.

(C1.323) SEGMENTED PLOTTING: Plot the unit's activities for the first eight impulses. At the end of Impulse #4, plot the activities for Impulses #9-12. At the end of Impulse #8, plot #13-16, and so on. Thus, a player will always be plotted for 4-8 impulses in advance. Players may experiment with other combinations such as 5-10, 15-30, 2-4, etc. Players fill out their Energy Allocation Forms at the end of Impulse #28 of the previous turn. Use (D22.0) to resolve any energy imbalance at the end of a turn.

(C1.33) LEVELS OF PLOTTING: There are several "levels" of plotted movement. Under the more restrictive levels, all movement-based actions must be plotted. Under the more liberal levels, many actions can be made freely. Note that the various forms of segmented plotting are variations of all levels, not a level themselves. Also note that energy allocation and movement plotting are related but not the same. Allocating energy for a High Energy Turn is not the same as plotting to make such a turn at a specific point.

A: MODIFIED FREE MOVEMENT: Players can perform speed increases (C12.24) and HETs (C6.0), and switch to or from Erratic Maneuvering (C10.0), without prior plotting, assuming energy is available from reserve power (H7.0) or contingent allocation (H7.6). Contingent allocation (H7.61) is authorized only for HETs and EM, not for speed changes. [Plotting speed changes may, however, have some advantages in power efficiency; see (C12.24).] This level can be substituted for the standard level (B) without affecting game balance while providing more advanced movement options and tactics.

B: STANDARD FREE MOVEMENT: Same as A, except that unplotted speed changes by (C12.24) are not allowed. This is the standard procedure for the purposes of all rules, scenarios, and game balance.

C: LIBERAL PLOTTED MOVEMENT: Same as C1 below, but PFs and satellite ships can be launched at any point, with their movement for the remainder of the turn plotted at time of launch. This level also allows the unplotted use of HETs (with the balance of the movement plot "rotated" by the appropriate amount), or an HET can be used when converting to evasion plot.

C1: STANDARD PLOTTED MOVEMENT: Plot all movement (including HETs) hex by hex only for ships (including PFs). Shuttle and fighter movement is not plotted. Allow ships to change between pursuit, station keeping, and evasion plotting according to the rules. See (C1.35) for all forms of plotted movement. See (C3.433) and (C5.42) for Tactical Maneuvers.

D1: PLOTTED SHUTTLE MOVEMENT: Same as C1, but the movement of shuttles must be plotted. This level allows launch and recovery of shuttles at any point, with the shuttle's movement for the rest of the turn plotted at the time of launch. (Note that satellite ships and PFs, being ships, effectively use D1 while at level C or C1.)

D2: OPTIONAL SHUTTLE MOVEMENT PLOTTING: Same as C1, but also requires that the launch, recovery, and movement of shuttlecraft (including fighters), satellite ships, and PFs be plotted at the start of each turn. This restriction is not required with E; you can specify "plotting level E without option D2" if you wish.

E: RESTRICTED MINE PLACEMENT: Same as D1, but also requires that the placement of mines (by transporter or by laying) be plotted. As the use of transporters requires dropping a shield, the player can voluntarily cancel the plotted laying of mines by transporter if he does not wish to drop the shield.

(C1.34) ALWAYS PLOTTED: The following items are always plotted at all levels: Docking (C13.0) except PFs and satellite ships at some levels, damage control (D9.2), continuous damage repair (D9.7), repairs (G17.0), guards (D7.83), reloading weapons, deck crew operations (J4.8), changing modules on a modular PF (K2.38), emergency damage repair (D14.0), self-destruction (D5.0).

Note that the speed of the unit is always plotted; *the unit must always have a legal speed plot*. All deceleration must be plotted (including braking energy to reverse direction), except an emergency deceleration, which is never plotted.

(C1.341) LEGAL SPEED PLOT: The legal speed plot [which will be a single constant speed unless using mid-turn speed changes in *Advanced Missions*, in which case see (C12.12) for details] cannot include the anticipated effects of emergency deceleration (C8.25), which is never plotted (C1.35). For example, if the ship is moving at Speed 20 for the entire turn, it must allocate sufficient energy for this movement even if the player is absolutely certain that he will be using emergency deceleration on some specific impulse. He cannot plot emergency deceleration for a given impulse and use the movement energy for the remainder of the turn for other purposes.

(C1.342) COMPUTER SHIPS: Ships fighting against computer-controlled ships use plotted movement; see (G11.12).

(C1.35) NEVER PLOTTED: The following items are never plotted at any level: firing weapons (E1.0), using tractors (G7.0), using reserve power (H7.0), launching seeking weapons (including scatter-pack and suicide shuttles) (F0.0), probe launch (G5.0), dropping chaff (D11.0), transporters (G8.0) (except mines and satellite ships where noted), hit and run raids (D7.8), raising or dropping shields (D3.5), launching wild weasels (J3.0), cloaking or uncloaking (G13.0), displacement (G18.0), laboratory functions (G4.0), deceleration due to damage (D22.0), dropping pods (G14.3), dropping warp booster packs (K1.62) and (J5.22), ship separation (G12.0), catastrophic damage (D21.0), EW changes (D6.315), and emergency deceleration (C8.0).

(C1.4) PERFORMING MOVEMENT

Each unit will move one hex, and only one hex, during each impulse in which movement is called for by the IMPULSE CHART. If a player allocates energy for sixteen hexes of movement, his ship will move one hex in each of sixteen impulses (specified by the Impulse Chart) during that turn.

NOTE: Involuntary movement not under control of any player [e.g., black hole (P4.0)] is in addition to movement plotted by the players.

(C1.41) GENERAL: The actual movement (and other functions) is done during the Impulse Procedure; see (B2.3), Explanation of the Sequence of Play.

Each turn is divided into 32 impulses; see (C1.5).

(C1.42) MAXIMUM SPEED: The maximum allowable speed in the game is 31 unless specifically excepted; for example, see plasma torpedoes (FP0.0) and fast drones which move at Speed 32. Other exceptions will be noted in their specific rules; e.g., an enraged mother space dragon (SM7.468) or a striking moray eel (SM3.45). See (C1.45) to handle these faster units.

(C1.43) MOVEMENT PROCEDURE: During the Impulse Procedure, the various units on the map (including shuttles, drones, and plasma torpedoes) are moved by a proportional movement system. In simple terms, this means that if unit "A" is moving at ten hexes per turn, unit "B" is moving at five hexes per turn, and the turn is divided into a number of impulses (with no unit moving more than one hex per impulse), then unit "A" will move during twice as many of those impulses as unit "B" and will, of course, move twice as far. A more detailed version of the procedure is included in the Explanation of the Sequence of Play (B2.3).

(C1.44) THE CONTROLLER: During the course of the game, one player assumes the duties of "controller." These duties consist of reading the IMPULSE CHART and informing the various players when their units move. There is no particular advantage to being the controller, but in large scenarios it may be preferable to have a non-playing person act as the controller to prevent slowing down the game.

NOTE: The Impulse Cards provided in *Captain's Module A+: Captain's Yeoman* will greatly simplify the controller's job and will take much of the burden from a player who is also serving as controller.

At the start of the Impulse Procedure, the controller should lay the movement chart out flat and place a sheet of scratch paper over it, just below the column headings. On the edge of this sheet, under the speed column heading for the speed of each unit on the map that turn, he should mark some identifying initial or mark for that unit. Then, as each impulse begins, he lowers the sheet of scratch paper by one row, announcing the units that move in that particular impulse. For example, on Impulse #7, a unit that was moving ten hexes per turn would be told to move its second impulse of movement.

No impulses are skipped, even if no unit is scheduled to move. Units may still fire/launch weapons and perform other functions in those impulses. For example, let us assume that in a given scenario, there is a Federation cruiser moving at a speed of seven, a Klingon D7 moving Speed 11, and a Klingon drone moving at a speed of eight. The controller sets up his sheets and marks the eleven, eight, and seven columns.

No units move during Impulses #1 and #2 although weapons could be fired. The D7 will move in Impulse #3, the drone in #4, and the cruiser in #5. During Impulse #6 the D7 will move. No units move during Impulse #7, but during Impulse #8 the drone moves its second impulse. The D7 moves again in Impulse #9 (note, however, that the D7 is moving ITS third impulse) and the cruiser moves in Impulse #10. Nothing moves during Impulse #11, but during Impulse #12 the D7 and drone move. (There are, of course, twenty more impulses, but it would be rather tiresome to go through them all.)

(C1.45) FASTER MOVEMENT: In some very unusual cases a unit could actually move (under its own power) two or more hexes during a given impulse. (This can also happen with units moving under two different forms of movement, such as normal engine power and black hole movement on the same impulse.)

(C1.451) In such cases, the normal turn procedures still apply. The "super-fast" unit simply moves two (or whatever) hexes, and the turn proceeds normally. While other units may have missed a firing opportunity, this is simply a function of the high speed of the "super-fast" unit.

EXAMPLE: A ship is in hex 1010 and a "super-fast" unit (in this case an enraged mother space dragon) is in hex 1007 heading toward it at a speed of three hexes per impulse. The ship could have fired at the dragon at Range 3 on the previous impulse, but after the movement portion of this impulse, the dragon will be in the same hex as the ship (and probably doing the ship no good at all); i.e., there will be no firing opportunity at Ranges 2 or 1.

(C1.452) The "super-fast" unit completes its entire movement (for that impulse) at the point in the Order of Precedence when it is scheduled to move. (Note that involuntary terrain-induced movement is performed at an earlier step in the Sequence of Play and is never part of the Order of Precedence.) This movement must be within the movement rules through legal hexes.

(C1.453) If struck by seeking weapons during this movement (e.g., by running into the weapons), the damage is resolved at the normal point in the Sequence of Play as separate volleys (for each hex of movement and each shield struck).

(C1.454) If the "super-fast" unit strikes a mine (or some type of terrain that causes damage), any resulting damage to the "super-fast" unit is resolved immediately at that point during the Movement Step (before moving to the next hex). Any damage by the mine to other units is resolved at the normal point in the Sequence of Play (assuming simultaneous detonation of all such mines). Any terrain effects, such as asteroids, are rolled at the highest speed column on their respective charts, shifting the die roll by one in the least favorable direction (6+1 remains 6; 1 - 1 remains 1).

NOTE: At the time this rule was written, it applied only to an enraged mother space dragon (SM7.0) defending her young or to a "striking Moray Eel" (C1.42). Since that time sabot plasma torpedoes (FP11.0) have been added. New rules, however, could produce more units moving at speeds beyond 32.

(C1.46) CLOSING TRAJECTORY: It is possible that two units could be heading toward each other and happen to move on the same impulse. This can create lost firing opportunities.

For example, a Klingon D7 and a Federation CA are heading toward each other and are five hexes apart. Both move on this impulse, and the resulting movement places them three hexes apart. There is no opportunity to fire at Range 4 (even though the Federation Captain would rather trade fire at that range where the Klingon ph-2s are ineffective).

In another case, a Kzinti drone and a Klingon D7 (with no phasers available to fire) might be heading toward each other. The Klingon player would like to tractor the drone to prevent its impact, but has only one point of reserve power and so can only do this at Range 1. But the drone is two hexes away and both the ship and drone are scheduled to move, and if both move straight ahead, the drone will enter the hex and strike the Klingon ship before the tractor can engage. To avoid this problem, the D7 sideslips to the right, avoiding impact during this impulse. The D7 then tractors the drone and destroys it with a phaser during the next turn.

(C1.5) ADDITIONAL MOVEMENT CHARTS

Earlier editions of *Star Fleet Battles* included charts for various numbers of impulses so that players could use the smallest number of impulses required for the speeds of the units in play, thereby saving themselves the trouble of going through the Sequence of Play 32 times.

However, these charts are no longer included because of the problems of translating the time interval requirements of various rules (written for 32 impulses) into a variety of other impulse intervals.

Experienced players found that the 32-impulse chart was actually more flexible and did not actually consume any more time as there were only so many weapons to fire anyway.

There was also the problem of someone launching a fast seeking weapon in the middle of a turn that was set up with a slower chart. This required switching charts in mid-turn, a procedure requiring higher-order mathematics and a computer with at least five megabytes of RAM. Or to state things more clearly, ignore rule (C1.5).

(C1.6) STACKING

(C1.61) NO LIMIT: Players are permitted to freely stack counters within a given hex. There is no limit as to the number of counters that can occupy a hex.

(C1.62) INDEPENDENCE: Each counter is still treated independently for all purposes. Each weapon fired (or moving) into a hex is directed at ONE (and ONLY one) counter within that hex.

There is a partial exception in (D15.52), where shuttles conducting ground assaults can form into convoys.

(C1.63) GROSS EFFECTS: Explosions (D5.0), Terrain (P0.0), and Mines (M0.0), as well as WW collateral damage (J3.3), damage all units in each affected hex equally.

(C1.7) RAMMING AND COLLISIONS

There is no provision in *Star Fleet Battles* for ramming or colliding with another unit. No rules for this will ever be added to the game. Ramming is prohibited; accidental collisions between units are so unlikely as to be considered effectively impossible. (Note that docking, landing shuttles, ESG interactions, running into webs, crashing into a planet, and seeking weapons impacts are not considered to be ramming.) Exception, dogfighting shuttles may collide; see (J7.662).

(C2.0) ENERGY COST OF MOVEMENT

(C2.1) GENERAL RULES

Movement is expressed in movement points (also known as "movement factors" or "hexes of movement"). Movement points are purchased by expending energy. Each ship buys movement points at a specified rate based on its size and efficiency.

During the Energy Allocation Phase of each turn, each player records on the Energy Allocation Form(s) a number of energy points for movement for each of his ships. This is the amount of energy allocated to movement.

(C2.11) LIMITS ON POWER USED: Energy allocated to movement can only come from warp engines or impulse engines.

(C2.111) IMPULSE LIMIT: One point of impulse engine (H3.0) energy always yields one hex of movement, regardless of the size of the ship. [Exception: Impulse power cannot move a large asteroid (P3.43).] See also (H3.4), (G7.36-B), and (C14.13) for other uses of and conditions on impulse power.

No more than one point of energy may come from impulse engines for purposes of regular movement, braking (C3.52), and/or sublight Tactical Maneuvers (C5.12) during any given turn (total of one point, not one point for each listed function). Impulse energy used for Erratic Maneuvers (C10.11) or for stabilization of orbit (P8.43) is not included in this limit.

Impulse energy can never be used for HETs (C6.0) or warp Tactical Maneuvers (C5.2).

(C2.112) WARP LIMIT: No more than 30 movement points (per turn) can come from the warp engines (H2.0). Note that this restriction (generating 30 movement points) is "practical speed" (C2.411) and includes all possible conditions, such as towing (G7.32), Orion engine doubling (G15.26), tug pods (G14.34), or breaking through webs (G10.561). Note that HETs (C6.0) and Erratic Maneuvers (C10.0) are rated in movement points, but are not included in this limit [i.e., in the practical speed (C2.4)]. This paragraph is critical in the interpretation of other rules and interaction with them. See also (C12.38) for an additional restriction. It should be noted that warp-tacticals don't

come under this limit, but since you can't do them at Speed 30 it's pretty much irrelevant.

EXAMPLES: Two Gorn cruisers are engaged in a tractor link (G7.36); both have a movement cost of one and 32 warp. Neither can use more than 30 points of warp, even if one of them was not moving at all. They could not use (G10.561) to have one pull the other out of a 31-point web. An Orion CR towing a second CR could not generate more than 30 movement points with warp energy, even with his engines doubled.

NOTES: There is a partial exception in the case of some tugs; see (G14.34). In some cases, warp power cannot be used for movement; e.g., (C14.12).

(C2.12) WARP MOVEMENT POINTS: Warp movement points are generated by taking the number of warp engine energy points (those which have been allocated for movement) and dividing this number by the movement cost of the ship. This movement cost is shown on the SSD sheets and on the MASTER SHIP CHART (Annex #3). Each resulting warp movement point yields one hex of movement.

(C2.13) COMBINED WARP AND IMPULSE: The movement provided by warp energy and impulse energy is totaled, and the result is the total number of hexes that the ship will move during the current turn.

EXAMPLE: A Federation destroyer has a movement cost of 1/2. On a given turn, it allocates one point of impulse engine energy and six points of warp engine energy. The six points of warp engine energy are divided by the movement cost to yield twelve hexes of movement; the impulse energy provides another movement point. The ship will move thirteen hexes during the current turn.

(C2.14) SUBLIGHT SHIPS: Certain ships (e.g., Romulan Warbird) have no warp engines, but only impulse engines. These ships can never move more than one hex per turn under their own power and cannot move and use Tactical Maneuvers on the same turn. (There is also a Romulan sublight shuttle, which moves one hex per turn.)

When towing sublight units, see Annex #7L in *Advanced Missions* for towing costs. (The Warbird is the only sublight ship in *Basic Set*. It has a movement cost of 1.00. The Federation Battle and Starliner pods, when detached from a tug, are also sub-light units and are also in *Basic Set*.)

(C2.15) NON-MOVING UNITS: Certain units, primarily bases, have no engines and never move. Bases can rotate (C3.7) and be placed in orbit (P8.0).

(C2.16) SPEED LIMIT: No ship may exceed a practical speed (C2.411) of 31 during any turn. While ships move at considerably faster speeds in getting to and from their patrol areas, combat is impossible at those speeds, and all ships are presumed to slow to 31 (or slower) before entering a tactical scenario. Note that rule (C2.112) actually creates this limit as warp power can provide a speed of no more than 30 (impulse power provides the 31st hex of movement). Some units (e.g., fast drones and plasma torpedoes) are assigned a speed of 32.

(C2.17) CONTINUOUS POWER REQUIREMENT: It is necessary to keep expending power every turn to maintain movement. For example, if a given ship (with a movement cost of one) expends ten energy points for movement on Turn #1 and thee points on Turn #2, its speed on Turn #2 is three, NOT ten or thirteen. Only the power spent on the current turn generates or sustains movement.

(C2.18) WARP RESTRICTION: This rule was moved to (C12.38).

(C2.2) ACCELERATION

Movement at trans-light speeds is not, in the purest sense, movement, but rather the warping of space around the starship. As this is the case, there is no need for periods of "acceleration" as such. However, the energy conversion and transmission systems of the ships cannot suddenly change from a standing start to 512 times the speed of light (Warp eight). The time they require to generate the bending of space effectively creates a requirement for "acceleration."

NOTE: These rules apply to "ships." PFs use the same rules but can accelerate faster. Shuttles (which do not use energy allocation) have a simpler acceleration limit in (J1.22).

(C2.21) MAXIMUM INCREASE: When allocating energy to movement, the player may increase the ship's practical speed by a number which is equal to the previous turn's speed, or ten, whichever is greater. This includes warp and impulse power.

EXAMPLE: If speed on Turn #5 was three, then it could be increased to no more than thirteen on Turn #6 (thirteen is ten more than three). If speed is increased to thirteen on Turn #6, then on Turn #7 speed could be increased to 26 (26 is double thirteen).

EXCEPTIONS: There are exceptions to this noted in the specific rule for each ship. For example: freighters (R1.5) and (R1.6), X-ships (X0.0), interceptors (K3.22), shuttles (J1.22), PFs (K1.22), and some monsters.

(C2.22) UNLIMITED REDUCTIONS: There is no penalty or restriction for reducing speed or maintaining a constant speed. See (C12.32) for an exception.

(C2.23) ZERO SPEED: A ship can stop by various means and, if it does so, will take considerable time to accelerate.
(C2.231) A ship can drop to zero speed during energy allocation or with mid-turn speed changes (C12.32).
(C2.232) If a ship reverses direction (C3.52), its speed is considered to be zero for purposes of acceleration on the next turn.
(C2.233) After suffering a breakdown (C6.541) or performing emergency deceleration (C8.4), speed is at zero for a defined period. See (C14.33) when undocking from a Tholian pinwheel.
(C2.234) Stopping resets the Turn Mode and sideslip mode to zero.

(C2.24) THOLIAN WEB: A ship caught in a Tholian web (G10.0) is considered (for purposes of acceleration) to have continued moving at its recorded practical speed (C2.411), even though it did not actually travel any hexes.

(C2.25) EXCLUSIONS: For purposes of acceleration, the movement point cost of High Energy Turns (C6.0), Tactical Maneuvers (C5.0), braking energy (C3.52), and/or Erratic Maneuvering (C10.0) is not considered to be movement. Having performed these maneuvers on a prior turn does not affect acceleration on the current turn (i.e., do not include them when calculating prior speed in order to determine the maximum speed on this turn); performing them on the current turn is not within the acceleration limits and has no effect on acceleration on the next turn.

(C2.3) DECELERATION DUE TO DAMAGE

When a ship takes damage in combat, its speed may be reduced in mid-turn by damage to its engines. In this case, you may use the procedure in (D22.0) of *Advanced Missions* to resolve the energy imbalance resulting from damage whenever damage reduces the number of engine boxes. Note that this procedure will affect more than just movement.

This procedure was originally defined in this rule (C2.3) but was moved to (D22.0) when it was revised and greatly expanded.

(C2.4) DEFINITION OF SPEED

The speed of a unit is the number of hexes that the unit moves during a turn, assuming no mid-turn speed changes.

If mid-turn speed changes (C12.0) are used, speed is defined as the rate of movement at any point, as if that current rate of speed were conducted over an entire turn.

(C2.41) TYPES OF SPEED: A unit in *Star Fleet Battles* can, simultaneously, have various "types" of "speed," each of which is used for a different purpose. These include:
(C2.411) PRACTICAL SPEED is the actual speed generated by the unit (or the rate, in terms of hexes per turn, at which it is currently moving), without any effects from objects being towed (or towing the unit) or terrain-induced movement (e.g., black holes). It is used for purposes of acceleration and reversing the direction (and is the only speed used for those purposes). Practical speed can never exceed 31; see (C2.16). Tugs may have their practical speeds adjusted when

dropping a pod (G14.34); note that this does not apply to towing a pod which is not attached. Practical speed is used for disengagement by acceleration (C7.1). Note specifically that if a unit were towing another unit even if it were capable of generating a pseudo speed (C2.413) less than Speed 31, it still cannot generate a practical speed greater than 31.

(C2.412) EFFECTIVE SPEED is the actual number of hexes that the unit moves during the turn (or the rate, in terms of hexes per turn, at which it is currently moving) plus the cost of Erratic Maneuvers. This is used for purposes of mines, asteroids, dust, recovering fighters, destroying objects (e.g., shuttles) by towing them at high speed, collisions with small moons, docking, and web damage.

(C2.413) PSEUDO SPEED is used when moving while linked to another unit which is using its engines for movement (G7.36). In effect, both units are towing each other at the same time (and probably in different directions). Pseudo-speed is used for purposes of (G7.36) and Turn Modes. See (C2.46).

(C2.414) MANEUVER RATE. This is not actually speed, but is the Practical Speed plus the cost of certain movement-related functions and actions (C2.42). It is used primarily for purposes of cloaked ships and wild weasels.

(C2.415) Note specifically that during most circumstances all four "speeds" will be the same. To have four different ratings, the ship would have to be moving, linked by tractor to another ship which was itself moving, conducting movement-related activities that cost but did not produce movement points, *and* be in a nebula or near a black hole (i.e., this rule is not nearly so complicated in use as it is in definition).

(C2.416) Unused energy held as reserve warp power is not included in calculating any version of the ship's speed. Warp power used for non-movement purposes is not included in any version of the ship's speed.

(C2.417) Turn Modes are based on the practical speed unless this is different from the pseudo-speed, in which case the pseudo-speed is used.

(C2.42) MANEUVER RATE: For purposes of cloaked ships (G13.331) (and all other cloaked speed calculations.), or speed restrictions to avoid voiding a wild weasel (J3.13), the movement point cost of certain functions and actions is added to the practical speed to produce the maneuver rate. These functions and actions include:

High Energy Turns (C6.21),
Tactical Maneuvers (C5.12) or (C5.22),
Braking Energy (C3.52), and/or
Erratic Maneuvering (EM) (C10.11).

The maneuver rate is based on the electronic signature (specifically "exhaust") produced by the engines; it does not include engine power used for non-movement purposes.

The maneuver rate is not actually "speed" in the sense used elsewhere. The maneuver rate effectively makes it impossible for a ship protected by a WW to use EM or to perform an HET without voiding the WW. Note that a nimble ship (C11.0) moving at Speed 1 could perform EM and not void the WW due to the low EM cost for nimble ships.

Maneuver rate does not include terrain-induced movement; see (C2.45).

(C2.421) The maneuver rate differs from the practical speed only if the maneuvering energy is actually used. If a ship allocates energy for a High Energy Turn, the cost of this maneuver (equal to five hexes of movement) is not added to the ship's maneuver rate until the maneuver is actually made, at which point it would be added to the ship's practical speed (which may vary) to become the maneuver rate.

(C2.422) The cost of an HET is included in the maneuver rate of the ship only for the impulse in which the HET is made. An HET made before the ship cloaked (or launched a weasel) would not count in the maneuver rate.

(C2.423) The cost of Erratic Maneuvers (C10.0) is added to the maneuver rate of the unit during any impulse in which the unit is performing EM, and only during those impulses. The use of EM which is terminated before a WW is launched would not void the weasel. Note that unit under cloak cannot use EM (G13.59).

(C2.424) The cost of Tactical Maneuvers is added to the maneuver rate for the remainder of the turn, starting at the time the maneuver is made (not when it is earned). This cost is cancelled if the ship begins moving during the turn.

EXAMPLE: With a nimble ship (C11.28) (able to make a speed change in six impulses) and an outstanding crew (G21.224), it is possible to do Tactical Maneuvers on Impulses #2, #3 (impulse), #6, #11, change speed (C12.0) to four on Impulse #12, move on Impulse #16, change speed to zero on Impulse #18, and do Tactical Maneuvers again on Impulses #22, #27, and #32. Total of six Tactical Maneuvers and one hex of movement, none of which void the weasel.

(C2.425) Braking energy is included within the maneuver rate for the impulse in which it is used only; see (C3.52).

(C2.43) CALCULATIONS: The effective speed, pseudo speed, and maneuver rate are all calculated independently of each other based on the practical speed. These calculations are mathematically summarized below. These summaries explain, but do not create, the rules in the relevant sections.

Practical Speed	=	Warp engine power allocated divided by movement cost, + (possibly) one point for impulse power.
Effective Speed	=	Practical speed + Cost of Erratic Maneuvers + Terrain-induced movement (black holes, nebulae, webs).
Maneuver Rate	=	Practical speed + cost of HET (during that impulse) + cost of braking energy (during that impulse)+ cost of Tactical Maneuvers (as used)+ cost of Erratic Maneuvering (while in effect).
Pseudo Speed	=	Warp power allocated divided by the movement cost of the combination of units, + (possibly) one point for the impulse power.

(C2.44) RECALCULATION: The four types of speed are recalculated immediately whenever the component conditions change.

(C2.45) EFFECTIVE SPEED: The practical speed of a ship does not include the effects of terrain induced movement, such as being pulled toward a black hole (P4.0) or the random movement inside a nebula (P6.5). This movement, when added to the practical speed, results in the effective speed. The cost of Erratic Maneuvers and the loss of movement due to a web is also included in the effective speed. Effective speed does not include the cost of HETs or Tactical Maneuvers. If two ships are connected by tractor beam, their effective speed is equal to the sum of their pseudo-speeds, plus terrain-induced movement.

(C2.451) Effective speed, being the actual rate at which the unit is moving through space, is used for purposes of mines, asteroids, rings, dust, recovering shuttles and fighters, destroying objects (e.g., shuttles) by towing them at high speed, collisions with small moons, docking, and web damage. See (M2.415) for the effects of rotation (G7.7) on triggering mines.

EXAMPLE: If a ship is moving at a (practical) speed of four, but its movement during the turn includes one additional hex caused by a black hole directly ahead, the ship has moved five hexes and when passing a mine would roll a die based on that effective speed. If, however, the ship was moving at a practical speed of five away from the black hole, with the movement effects of the hole "slowing" it to four, the die roll would be based on a speed of four.

EXCEPTION: There is a special case when two (or more) units are linked by tractors. In such cases, the units roll for damage when one of them moves the combination, but use the "net effective vector speed" instead of the effective speed. To calculate this, assume that the ships spent an entire 32-impulse turn moving in the directions they are heading and linked by a tractor as they are. Calculate the distance each ship would cover in such a hypothetical game turn and use that as the "net effective vector speed." Ships trying to pull each other in opposite directions would have a NEV speed of zero. NEV is the same as long as the ships are linked, whether one or both of them moves, and whether they move straight ahead or sideslip. NEV would change if one of the ships turns.

(C2.452) Effective speed is not used for purposes of gaining or retaining a lock-on to a cloaked ship or for wild weasel speed restrictions. See (C2.414).

EXAMPLE: If a ship is moving at a (practical) speed of four, but its movement during the turn includes one additional hex caused by a black hole directly ahead, the ship has moved five hexes but as the maneuver rate is still four the WW is not voided. If, however, the ship was moving at a maneuver rate of five away from the black hole, with the movement effects of the hole "slowing" it to an effective speed of four, the WW is still voided.

(C2.46) PSEUDO SPEED: Units towing other units use their pseudo speed to determine when each of them will move the entire combination. See (G7.36-B) for the calculation of pseudo speed. Fractional points of movement are lost.

EXAMPLE: A D6 and a CA are tractored together. The D6 was moving at Speed 14 and the CA at Speed 10. During the turn, they are moved one hex by a black hole. The combined ships now have an effective speed of thirteen [(14/2) + (10/2) + 1 = 13)], their pseudo speeds are seven (Klingon D6 = 14/2) and five (Federation CA = 10/2), and their practical speeds remain fourteen and ten respectively. If mid-turn speed changes are involved, these speeds will each be calculated as if the individual ship was going to move at the current speed for the entire turn and recomputed at the point where the mid-turn speed change is announced, i.e., after the last move at the current speed and before the first move at the new speed.

(C3.0) TURNING AND TURN MODES

Each unit in the game which moves at trans-light speed (more than one hex per turn) must maneuver (i.e., turn) within the limits of its "Turn Mode". This "Turn Mode" is the factor that defines how quickly a given unit can turn (i.e., change facing).

Players will have to bear with one of the limitations of the English language in the overuse of the word "turn." It can be your turn to move on Turn #3, you may choose to make a left turn or perhaps a High Energy Turn, and if you are not careful, things may take a turn for the worse.

Similarly, an "impulse" is one of 32 segments of a turn, which has nothing to do with "impulse engines" on ships.

(C3.1) TURNING

The actual act of turning the unit by 60° is done at the start of a given impulse (immediately before moving into the next hex) and NOT at the end of the impulse (after entering a given hex). A unit's Turn Mode regulates how often a 60° turn can be made.

Note that various other maneuvers, such as High Energy Turns (C6.0) and Tactical Maneuvers (C5.0) can also produce a facing change and hence, in effect, a turn.

See (C4.4) for an illustrated example.

(C3.2) DEFINITION OF TURN MODE

(C3.21) DEFINITION: A unit's Turn Mode is the minimum number of hexes which the unit must move in a straight line [straight ahead, with same facing, see (C1.2)] before it can turn 60° (one hex side) right or left. After each 60° turn, the unit must again move the stated number of hexes straight ahead before it can turn again.

(C3.22) ADJUSTMENTS: Turn Modes increase with speed; also, less maneuverable units have higher Turn Modes. Other factors, such as a tug carrying a pod (G14.0), being uncontrolled (G2.21), or Erratic Maneuvers (C10.55), may increase (worsen, lengthen) the Turn Mode. Legendary Navigators (G22.81) may improve the Turn Mode.

(C3.23) CATEGORY: A unit may appear to have two different types of Turn Modes. For example, each unit is assigned a Turn Mode Category (C3.3), also known as a Turn Mode Rating; for example the Federation CA has a Turn Mode (category) of D (the word "category" being unspoken). A ship with a Turn Mode (category) of D would have a Turn Mode (in the proper sense) of three at a speed of nine.

(C3.24) SIDESLIPS (C4.32) are considered to be straight-line movement for purposes of Turn Modes.

(C3.3) ASSIGNMENT OF TURN MODES

Each unit is assigned a Turn Mode category on the MASTER SHIP CHART. The Turn Mode category is designated by a letter, which, on the TURN MODE CHART, indicates the Turn Mode of that unit at various speeds.

(C3.31) TURN MODE CHART (see below)

(C3.32) DETERMINING THE TURN MODE: To determine the Turn Mode of each unit at its current speed, look under the column for that unit's Turn Mode category for the speed bracket that includes the current speed. Then, look across on that line to find the Turn Mode (the number of hexes the unit must move in a straight line between each turn). All Turn Modes apply at the current speed; see (C3.44).

A Turn Mode chart for each ship is included on its SSD.

There are various possible adjustments; see (C3.22).

See (C2.417) and (C3.554).

TURN MODE	SEEKING WEAPON	SHUTTLE FIGHTER	AA	A	B	C	D	E	F
1	1-32	1-11	2-8	2-6	2-5	2-4	2-4	2-3	2-3
2		12-23	9-16	7-12	6-10	5-9	5-8	4-6	4-5
3		24+	17-24	13-19	11-15	10-14	9-12	7-10	6-9
4			25+	20-26	16-21	15-20	13-17	11-14	10-13
5				27+	22-28	21-27	18-24	15-20	14-17
6					29+	28+	25+	21-29	18-23
7								30+	24-29
8									30+
SHIPS IN *BASIC SET*									
	Drone Plasma Torpedo	Admin Shuttle Kzinti AAS Fighter		K: F5, E4 O: CR R: KF5R T: PC, PC+ Z: FF, EFF	K: D6/7 R: KR Z: CL	F: CL, DD, SC G: DD, DDF Z: CS, BC, CC S-AxCV F-S Q-S	F: CC CA, Tug+P G: CL, CA, BC K: C8/9 R: WE F-L Q-L	F: DN, BT, Tug+2P Z: CV, CVS	F: BT+P

(C3.33) SPEED OF ONE: A unit moving at a speed of one (not using Tactical Maneuvers) moves on Impulse #32. It can turn 60° and move one hex directly ahead. If you are at speed one on Impulse #32, regardless of what you did earlier in the turn, you are at "Turn Mode zero" and can turn and then move.

(C3.4) RESTRICTIONS OF TURN MODES

The hex entered on the impulse the turn was made counts as the first hex of straight-line movement for Turn Mode purposes.

(C3.41) CARRYOVER: Turn Mode restrictions carry over from turn to turn. For example, a unit with a Turn Mode of four that moves 6A, 1B (six hexes in direction A followed by one in direction B) on a given turn must move B3 (three hexes in direction B) on the next turn before making a turn to C or A (assuming no HET or change of speed).

(C3.42) CARRYOVER HEXES: Hexes moved in a straight line at the end of a previous turn, if in the same direction (forward, reverse), may be counted toward fulfillment of a unit's Turn Mode. See (C3.24).

(C3.43) STARTING FROM ZERO: A unit starting from Speed Zero cannot turn before moving out of the hex because it has no way to satisfy its Turn Mode. If the owning player wants to turn before movement, the unit could perform an HET (C6.0) before movement, or move at Speed 1 (C3.33), or perform a Tactical Maneuver at Speed Zero and then change speed (C12.0) and move normally.
(C3.431) A unit in a hex starting from Speed Zero must satisfy its Turn Mode (C3.0) before it can turn. This may require one or more hexes of straight forward movement, possibly including sideslips (C4.0). Obviously, if the unit is moving in reverse, this will be straight to the rear instead of forward.
(C3.432) Units moving at a speed of one hex per turn (C3.33) move on Impulse #32 and can turn before moving. Therefore, a unit that is stopped and which desires to turn before leaving the hex could do so by moving (at least initially) at a speed of one.
(C3.433) A unit which had been at Speed Zero and wished to move in some direction other than the one it is facing (perhaps there is a minefield in that direction) could make a Tactical Maneuver (C5.0) and then change speed (C12.0) to a speed greater than zero and move out of the hex in the new direction.

In the case of plotted movement (C1.32), it would be necessary to plot the direction of this Tactical Maneuver whereas Tactical Maneuvers that are not followed by movement would remain unplotted under the existing rules. See also (C5.42).
(C3.434) Seeking weapons launched from a ship (or other unit) are covered by various rules within their own sections and are not subject to this rule. Shuttles (including seeking shuttles), PFs, and Andromedan Satellite ships which have just launched from their carrier, tender, or mothership have not satisfied their turn or sideslip modes, and must move directly forward as their first movement unless they HET.

(C3.44) SPEED CHANGES: A unit which satisfied its Turn Mode at its current speed but did not turn, and which subsequently changed speed [either by (C12.0) or at the end of a turn], must satisfy the Turn Mode at the new speed. See (C3.32).
(C3.441) Movement in prior turns (C3.41), even if at a different speed, can be used to satisfy a Turn Mode.
(C3.442) Changing speed does not reset the Turn Mode.
(C3.443) A ship, which slows down to a speed at which the previously accumulated straightline movement would satisfy its new (lower) Turn Mode, may turn.

(C3.45) RESET: Performing an HET (C6.32), reversing direction (C3.554), being released from a pinwheel (C14.15), or stopping (C2.234) resets (i.e., reduces) the Turn Mode to zero. These effects also reset the sideslip mode. See (G7.331).

(C3.46) TERRAIN: Gravity Waves (P9.32), orbital movement (P8.0), and Nebulae (P6.5) may change the facing of a unit.

(C3.5) REVERSING DIRECTION *(Advanced)*

Ships normally move directly forward, turning 60° right or left as their Turn Mode permits. Ships may, however, also move backwards using exactly the same turning procedure.

(C3.51) MIXED DIRECTION: Ships may not mix forward and reverse movement during a single turn. The direction that a ship will be traveling (forward or reverse) must be noted during the Energy Allocation Phase. Direction can be changed only at this point. See possible exceptions in (C12.37). This rule (C3.5) assumes that mid-turn speed changes (C12.0) are not in use.

See also (C3.6) for Quick Reverse.

Seeking weapons (F2.14) and shuttles (J1.24) cannot move in reverse.

(C3.52) BRAKING ENERGY: Before a ship can reverse direction, however, it must pay a "braking energy" cost equal to its speed on the previous turn. This energy must be warp energy, except for one point that may be from impulse power (C2.111). Braking energy required is based on the cost of movement, not on the number of hexes of movement. Energy allocated to braking must be used. See (C8.102) for Emergency Deceleration.
(C3.521) The braking energy counts as movement for purposes of cloaks or WWs during the impulse in which it is applied (Impulse #1 if braking between turns); see (C2.42).
(C3.522) Braking energy reduces the ship to a speed of zero, from which point it can accelerate within its normal limits in the opposite direction. The energy spent for braking is part of the maneuver rate (C2.41) but does not count for purposes of acceleration.
(C3.523) When using mid-turn speed changes, braking energy is based on the highest speed in the previous eight impulses; see (C12.371). Nimble ships (C11.28) use the previous six impulses.

EXAMPLE: If the ship (movement cost of one) was moving at a speed of five on Turn #6, it would pay five points of braking energy (during Energy Allocation on Turn #7), and then could accelerate to a speed of ten on Turn #7 (in the opposite direction).

(C3.53) PLOTTING REQUIREMENT: Braking energy and reversing direction must be plotted as part of the ship's required legal speed plot. See (C1.341).

(C3.54) WARP OR IMPULSE: A ship can move in reverse using warp or impulse power within their normal limits (C2.11) or a combination of the two.

(C3.55) OTHER EFFECTS
(C3.551) Braking does not stop Erratic Maneuvering (C10.0).
(C3.552) Braking does not affect an HET that has been paid for but not used.
(C3.553) Braking stops a positron flywheel (C9.0), i.e., reduces it to zero.
(C3.554) Braking (i.e., stopping) resets the Turn Mode (C3.45) and sideslip (C4.35) mode to zero.

(C3.6) QUICK REVERSE *(Advanced)*

Ships may attempt to reverse direction without paying the full braking energy cost.

(C3.61) PROCEDURE: The ship rolls a die in the Movement Segment of the impulse during which direction is reversed. (Roll on Impulse #1 in the event of a reverse between turns.) If the die roll is less than or equal to the shortage of braking energy (expressed in terms of movement points, not energy points), the ship suffers a breakdown (C6.5). Such a breakdown is treated the same as any other; the ship stops (or tumbles). If it tumbles (C6.55), this is at the speed and in the direction of the movement before attempting the reverse. If the ship does not breakdown, it has successfully reversed its direction and is treated in all respects as a ship using (C3.5).

(C3.62) LIMITATION: A ship cannot perform a quick reverse within 1/4 turn of an HET (C6.36) or another quick reverse.

(C3.63) BREAKDOWN BONUS: The bonus in (C6.52) is for HETs only; it cannot be used for quick reverse.

(C3.64) OTHER CONDITIONS AND EFFECTS
(C3.641) In the case of docked ships, see (C13.925).
(C3.642) Nimble ships have a bonus; see (C11.25).
(C3.643) Poor crews have a penalty (G21.126) while outstanding crews have a bonus (G21.226).
(C3.644) Legendary navigators have a bonus; see (G22.86).

(C3.7) BASE ROTATION

Bases (including starbases, battle stations, base stations, and other types in other products) may be set to rotate. The owning player may elect that the base will not rotate, in which case it will keep its facing throughout the entire scenario. The decision as to whether or not the base will rotate, and if so at what rate, is made by the owning player before the scenario begins and is announced before set-up takes place.

(C3.71) SETTING ROTATION RATE: The rate of rotation is at the option of the owning player, but may not be less than one 60° turn each turn, or more often than one 60° turn each eight impulses (1/4 turn). The rotation rate can be set by the player before the scenario, but cannot be changed during the scenario. The rate can be changed between scenarios except as specified. See (P8.3) for units in orbit and (C14.13) for Tholian pinwheels.

(C3.72) PERFORMING ROTATIONS: Bases rotate on the following impulses:

RATE	IMPULSES
4	4, 12, 20, 28
3	7, 17, 28
2	12, 28
1	28

(C3.8) DIRECTED TURN MODES *(Optional)*

This procedure is intended primarily for use by Mauler ships (E8.0) but could be used by other units.

Turn Modes represent part of a circle. In theory, a unit which has completed its Turn Mode began turning (left or right) several impulses previously. In practice, a ship entering battle "satisfies its Turn Mode" without its player-captain having any idea if it will ultimately prove desirable to turn right or left. (Note the famous "Oblique Option Point" in the *Tactics Manual* when one makes a turn toward or away from the enemy only after evaluating the situation.) This fudge has been used in dozens of air combat and similar games since the term "Turn Mode" appeared in WWI air combat games back about 1972.

This procedure is more "accurate," but it is also more difficult to use and restricts a player's ability to make decisions. Unrealistic as it is, players genuinely prefer to be able to make periodic snap turns based on the situation at the time. The only reason to put yourself to this effort and subject yourself to these restrictions is if you gain something from it (i.e., the optional offside firing arcs for maulers).

Players can decide if the mauler ships may make use of this procedure; if maulers are allowed to use it, other units are not required (indeed, allowed) to use it unless it is decided (perhaps in a quest for ultimate realism) that all units will use it. Even so, it is recommended that the number of units using it be limited to avoid bogging down the game; perhaps only ships would use it while fighters and PFs would not. Seeking weapons probably never should use it because of the bookkeeping nightmare that would result.

This rule has no effect on game balance. The added flexibility of mauler firing arcs is counter-balanced by the lack of maneuverability.

(C3.81) DECLARATION: At the start of the Voluntary Movement Stage of each impulse, each unit must declare if it is accumulating right, left, or neutral Turn Mode points. In the absence of any declaration, it is assumed to be continuing the direction of the previous declaration. Turning resets the unit's declaration to "neutral" unless it is declared otherwise.

(C3.82) CHANGING DECLARATIONS: A unit can shift to or from neutral from one impulse to the next, but cannot shift directly from right to left accumulation (or vice versa) without spending an intervening impulse at neutral.

(C3.83) ACCUMULATION: For each hex of movement which a unit spends "left" it gains one "left Turn Mode accumulation point" and vice versa. There are no "neutral" Turn Mode accumulation points. Being in "neutral" simply means you are going straight ahead, not accumulating any additional points or losing any previous points. Note that declarations are made every impulse while points are accumulated only as the ship moves.

(C3.84) TABULATIONS: Each unit keeps a running total of its Turn Mode accumulation points. A given unit can only have right or left points at any given time. If a unit already has "right" points and starts accumulating "left" points, these simply reduce the number of "right" points until that number reaches zero, then begins accumulating "left" points.

(C3.85) TURNING: When a given unit has accumulated a number of Turn Mode accumulation points equal to its Turn Mode at the current speed, it MUST turn in the indicated direction on the next impulse in which the unit moves. (To avoid turning when you don't want to, accumulate all but one of the points you need then shift back to neutral and wait until just before you want to turn.) A unit cannot turn until it has accumulated the required number of points.

Turning wipes out the accumulated total of Turn Mode points, which starts over from zero.

(C3.86) SIDESLIP: A unit may only sideslip in the direction in which it is accumulating Turn Mode points.

(C3.87) MAULERS: See the mauler rules (E8.27) for an explanation of how this arcane procedure may be worthwhile.

(C3.88) FIRING ARCS: The firing arcs of weapons other than maulers and probes fired as weapons are not affected by this rule.

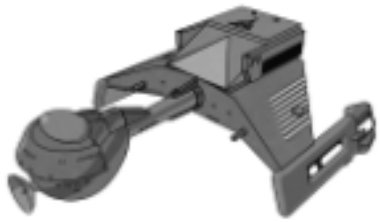
(C3.89) SPEED ZERO: A unit which is at Speed Zero and makes a Tactical Maneuver, High Energy Turn, or zero energy turn may (immediately after that maneuver) declare itself to be at a left, right, or neutral orientation. A unit at Speed Zero cannot accumulate Turn Mode points. Base rotations cannot use directed Turn Modes.

(C4.0) SIDESLIP *(Advanced)*

The restrictions of the hexgrid used in this game creates certain limitations on the movement of units that do not correspond with reality. To correct this situation, units may execute a "sideslip" maneuver.

(C4.1) SIDESLIP MODE

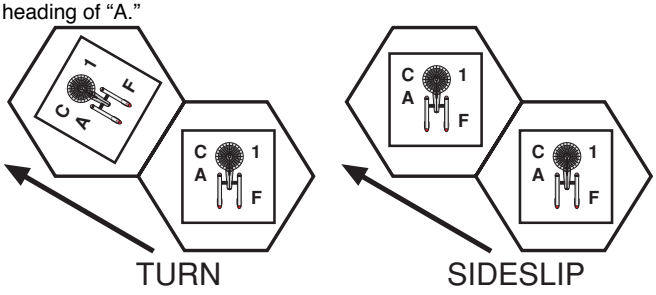
A sideslip maneuver is executed during the Impulse Procedure. For purposes of sideslip maneuvers ONLY, all units at all speeds are assumed to have a "slip" mode of "1." After satisfying the requirements of this slip mode (i.e., moving one hex in a straight line since the last sideslip), the unit may execute a sideslip maneuver. After executing a sideslip, the unit begins counting again to satisfy the requirements of a sideslip. After satisfying the normal Turn Mode, it may make a normal turn; after satisfying the sideslip mode of "1," the unit may execute a sideslip. Turn Modes and sideslip modes are recorded and satisfied independently of each other.



(C4.2) PROCEDURE

When executing a sideslip maneuver, the unit is moved into one of the hexes forward and to the side, but retains its original facing.

EXAMPLE: A starship in hex 3212 facing A has satisfied the requirements of either a turn or sideslip. If the owning player wanted to execute a turn on the next impulse when the ship is scheduled to move, it would be turned to face direction F and moved into hex 3112. If the owning player wanted to execute a sideslip, the ship would (when next scheduled to move) enter hex 3112 but retain its heading of "A."



(C4.3) RESTRICTIONS

(C4.31) HEX ENTERED: For purposes of satisfying the sideslip mode requirement, the hex entered during the sideslip does not count.

(C4.32) TURN MODE: For purposes of satisfying the regular Turn Mode, the movement before, during, and after the sideslip counts as movement in the same direction.

(C4.33) TURNING RESETS SIDESLIP MODE: For purposes of satisfying the sideslip mode requirement, a regular 60° turn resets the sideslip mode to zero; the sideslip mode must resume at that point. A unit may not sideslip on the hex of movement made during a normal turn. (That is, a unit may not turn and sideslip on the same impulse.)

EXAMPLE: A ship is in hex 1119 facing A with both its Turn Mode and sideslip mode satisfied. It could:

Move straight ahead to 1118.

Turn 60° right and enter 1218 facing B.

Turn 60° left and enter 1018 facing F.

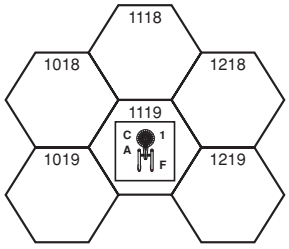
Sideslip right into 1218 facing A.

Sideslip left into 1018 facing A.

It could NOT turn AND sideslip into 1219 facing B.

It could NOT turn AND sideslip into 1019 facing B.

It could enter 1219 or 1019 or 1120 with an HET (C6.0).



A sideslip counts as a "straight" movement for purposes of satisfying Turn Mode, and a turn (actually, the movement immediately after the turn) counts as a "straight" movement for purposes of fulfilling sideslip mode. The two are completely independent. See the Diagram (C4.4). The ship in the diagram "turned" in position #2, moving "straight" to position #3 as the completion of that turn. It then "sideslipped" into position #4, i.e., the straight movement part of the turn counted as satisfying its slip mode. Note that positions #5, #6, and #7 are the reverse of this maneuver, with the ship slipping into positon #6, then on its next move turning into position #7.

(C4.34) COMBINATIONS: A unit cannot combine a sideslip with a regular turn or High Energy Turn.

(C4.35) STOPPING resets the sideslip mode to zero; see (C2.234) and (C3.554). A High Energy Turn resets the sideslip mode to zero; see (C6.32).

(C4.36) RESET: Performing an HET (C6.32), reversing direction (C3.554), being released from a pinwheel (C14.15), or stopping (C2.234) resets the sideslip mode to zero. These effects also reset the Turn Mode. See (G7.331).

(C4.4) EXAMPLE OF TURNS AND SIDESLIPS

In the example below, a Federation CA (heavy cruiser) is moving at Speed 13 (resulting in a Turn Mode of four). The ship is suddenly confronted with a threat directly ahead. It cannot turn in hex #1 because that hex is the third it has entered since its last 60° turn (i.e., its Turn Mode is unfulfilled). It can also be assumed that the ship entered hex #1 by a sideslip.

The ship then moves ahead into hex #2, fulfilling its Turn Mode (and sideslip mode).

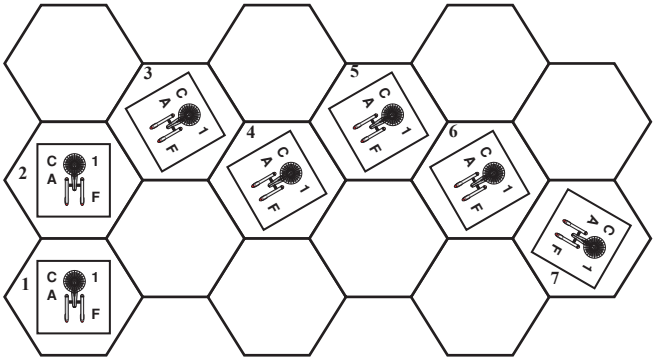
On the next impulse, it could enter hex #3 by a turn or a sideslip, but it elects to turn right instead as it wants to evade the approaching threat. (The ship would have probably fired the right phaser bank while in hex #2 since this bank could not fire on the threat after the turn, at least not until the ship turned again.)

The ship could move straight ahead from hex #3, but instead sideslips into hex #4 to keep as far as possible from the approaching threat.

Having neither its Turn Mode nor sideslip mode fulfilled, it has no choice but to enter hex #5. (It could have used a High Energy Turn, but for our purposes we can assume that, unaware of the unexpected threat, the captain had not allocated the five points of power required for that maneuver and a Federation CA does not have enough reserve power to do this maneuver entirely with reserve power.)

Having fulfilled its sideslip mode by the move into hex #5 (being directly ahead from #4), the ship can sideslip into hex #6. Note that without sideslips, the ship would be two hexes "north" of its present position, and that much closer to the enemy.

Having now fulfilled its Turn Mode (which required four hexes of forward movement without a turn; the sideslips counted as forward movement), it can (and does) turn another 60° right to enter hex #7.



(C5.0) TACTICAL MANEUVERS *(Advanced)*

From time to time a ship's captain may be unable or unwilling to move the ship out of the hex it occupies, but the captain may still want to retain the ability to turn his ship from side to side to respond to enemy operations (e.g., to turn a new shield toward an attack or to bring other weapons into firing arc). This is known as a Tactical Maneuver.

There are two types of Tactical Maneuvers: sublight Tactical Maneuvers (sometimes-called impulse Tactical Maneuvers) and warp Tactical Maneuvers. The general term "Tactical Maneuver" refers to both types as a class of maneuvers.

NOTE: These rules are written for "ships" which must allocate energy for Tactical Maneuvers. Fighters can also make Tactical Maneuvers under special rules in (C5.43).

(C5.1) SUBLIGHT TACTICAL MANEUVERS

Players operating ships which cannot move at trans-light speeds (for example, a Warbird or a badly damaged ship) or who, on a given turn, do not wish to move at trans-light speed may move in sublight movement (one hex per turn) or use "Tactical Maneuvers."

(C5.11) PROCEDURE: A player wanting his ship to make sublight Tactical Maneuvers may write "TAC" in his movement plot indicating the intention to use high sublight speed for Tactical Maneuvers. In

this case, the ship does not actually move (it remains in the hex it is in), but on any impulse except Impulse #1, it may make ONE 60° turn.

EXAMPLE: A Romulan Warbird is in hex 0305, facing hex 0304. The owning player has the option of using normal movement, in which case he could move his ship either "1A" (which would move him to hex 0304), or "1B" (which would move him to hex 0404), or "1F" (which would move him to hex 0204). If he had plotted "TAC," the owning player would be able to turn the ship to face one of these hexes, but not enter it. However, he could make this maneuver at any time, and in either direction, as he sees fit during the course of the turn. Note, however, that only ONE such maneuver is permitted during each turn of the game.

NOTE: The ship could, later in the same turn, accelerate using (C12.0) and leave the hex; see (C5.531). See also (G7.93).

(C5.12) IMPULSE POWER RESTRICTION: A ship must spend one unit of impulse engine energy to make a sublight Tactical Maneuver. This energy must come from impulse engines. A ship which makes a sublight Tactical Maneuver cannot, during that turn, move using impulse power; see (C2.111). However, a ship can use impulse power (even reserve impulse power) for Erratic Maneuvers (C10.11) in addition to the point of impulse power used for movement or Tactical Maneuvers.
See (P8.432) for using impulse Tactical Maneuvers to maintain orbit.

(C5.13) ZERO-ENERGY TURNS: A ship which had no power allocated to any movement function for the entire turn (and which did not move under its own power for the entire turn) can make one Tactical Maneuver per turn without power cost. This Tactical Maneuver can only be made on Impulse #32. (This represents the nominal effect of the ship's attitude thrusters, which are normally used for docking purposes. They operate on puffs of compressed gas, as earlier spacecraft did.)

This does not count as a Tactical Maneuver requiring orbital stabilization; see (P8.433).

This maneuver cannot be combined with normal Tactical Maneuvers during the same game turn.

A shuttle which does not move under its own power for an entire turn may make a zero energy turn of up to 180° on the last impulse of that turn.

(C5.2) WARP TACTICAL MANEUVERS

In certain tactical situations a ship's captain may decide that he does not want to change his position for the next turn, but that he does wish to maintain warp maneuverability.

(C5.21) PROCEDURE: Tactical warp maneuvers (also known as warp Tactical Maneuvers or warp-tacs) are performed much like sublight Tactical Maneuvers. The ship remains in the same hex for the entire turn, but can turn 60° (several times) under certain circumstances. [The ship could leave the hex later during the turn by making a speed change under (C12.0) in *Advanced Missions*.]

(C5.22) ENERGY COST: A given ship may make up to four tactical warp maneuvers during a given turn. Each requires the same energy it would have to move one hex (i.e., warp engine power).
(C5.221) A ship can allocate warp engine power for up to four warp maneuvers and may, during the turn, perform additional maneuvers (up to the overall limit of four) with reserve warp engine power (up to the limit of available reserve power). Note that the total number of warp Tactical Maneuvers with both allocated and reserve power is four, not eight. Note that a unit does not have to be doing Tactical Maneuvers in order to use reserve power for this purpose, see (C5.5).
(C5.222) See (C5.51) in the case of emergency deceleration.
(C5.223) Impulse energy may not be used to perform tactical warp maneuvers; it can be used for sublight Tactical Maneuvers (C5.1).
(C5.224) There are exceptions to the limit on the number of warp Tactical Maneuvers a ship can make. See (G21.124) for poor crews, (G21.224) for outstanding crews, (C13.926) for two ships docked together, (G2.22) for an uncontrolled ship, (G11.21) computer ships.

(C5.23) OPERATIONS: Tactical Maneuvers are resolved on the "Speed 4" column regardless of the number of warp Tactical Maneuvers paid for or any speed changes the ship may have made. In the case of a ship that halted during the turn, see (C5.532).
(C5.231) A ship using tactical warp maneuvers is assumed to have earned its first such maneuver (if power was allocated; earned the right to buy with reserve warp engine power if not allocated) on the second impulse of the turn. Thereafter, it earns an additional maneuver (or the right to buy one) each time it is scheduled to "move" by the impulse chart, except on the last impulse of the turn (due to there not being any Impulses of the turn following Impulse #32). Thus, a ship scheduled to make four Tactical Maneuvers would earn one on Impulses #2, #8, #16, and #24.
(C5.232) A given ship may have only one "earned" and unused tactical warp maneuver at any one time. If the movement chart calls for the ship to move (i.e., earn another maneuver) and it has not used the last one it earned, the new one is lost and the ship still has only one "earned" maneuver. A ship which has one Tactical Maneuver allocated can expend that Tactical Maneuver on any impulse in a given turn from Impulse #2 to Impulse #32. A ship that has allocated for two Tactical Maneuvers can use the first one on any impulse from #2 to #23, but loses the first one on Impulse #23 if it has not been used. If the first of two Tactical Maneuvers is used prior to Impulse #8, the second Tactical Maneuver is available from Impulse #8 until the end of the turn. This same procedure is used if the ship allocates for three Tactical Maneuvers or four Tactical Maneuvers. A ship can purchase Tactical Maneuvers, in addition to any that were allocated, from reserve warp power, but this will not increase the rate at which the ship earns the right to use them, nor allow it to use Tactical Maneuvers in excess of the limits above. Exception: Outstanding Crews (C5.233).
(C5.233) If a ship has an outstanding crew, it will be necessary to use the "Speed 6" column for that ship. This fact is not noted elsewhere in (C5.0) to avoid having numerous notations of "Speed 6 if the ship has an outstanding crew (G21.224)" cluttering the rules. A poor crew would still use the "Speed 4" column but would skip the #1 and #3 entries.

(C5.3) COMBINATION OF WARP AND SUBLIGHT TACTICAL MANEUVERS

(C5.31) PROCEDURE: A ship may use tactical warp maneuvers and sublight Tactical Maneuvers during the same turn (but NOT during the same impulse). In this case, the warp-Tactical Maneuvers would be made as per (C5.23) and the sublight-Tactical maneuver could be made at any point in the turn when it was eligible.

(C5.32) SPEED COLUMN: Four warp-Tactical Maneuvers and one sublight-Tactical Maneuver would not be resolved on the Speed 5 column, but on the Speed 4 column with one extra (sublight) Tactical Maneuver.

(C5.33) MAXIMUM: The maximum number of Tactical Maneuvers (five for most ships, seven for outstanding crews, three for poor crews) cannot be exceeded during a turn under any circumstances. A ship cannot, for example, perform Tactical Maneuvers, then use emergency deceleration, then claim the right to do more such maneuvers under (C5.51).

(C5.4) DATA ON TACTICAL MANEUVERS

(C5.41) SPEED ZERO: As Tactical Maneuvers are performed only by units at a practical speed (C2.411) of zero, the ship will be severely restricted in the speed it can move during future turns by the acceleration limits.

Tactical Maneuvers should be considered a means of making any time you must spend at Speed Zero less unbearable, rather than a good reason to bring your ship to a stop.

(C5.42) PLOTTED MOVEMENT: If using plotted movement (C1.32), the direction and impulses of Tactical Maneuvers need not be plotted but can be made during the turn at the option of the owning player. See also (C3.433).

(C5.43) NON-SHIP UNITS: Fighters may make warp Tactical Maneuvers (J4.11) but cannot make sublight Tactical Maneuvers.

Shuttles (other than fighters) and seeking weapons cannot make Tactical Maneuvers of either type. (Note: The MRS and SWAC shuttles are not fighters but can use Tactical Maneuvers.)

Bases, a type of ship, cannot make Tactical Maneuvers at all.

Most monsters can make Tactical Maneuvers (although some do not need to as they can move and fire in any direction).

(C5.44) MOVEMENT: Tactical Maneuvers are not movement per se and will not result in asteroid damage or mine detonations. They do count, however, as part of the maneuver rate for speed restrictions when using a cloak or wild weasel (C2.42).

(C5.441) The number of tactical warp maneuvers actually paid for is not announced, as the controller in (C5.23) is using Speed 4 regardless of the actual number of such maneuvers paid for. The player need not announce if he has any Tactical Maneuvers paid for.

(C5.442) The fact that a ship is making a sublight tactical or warp Tactical Maneuver is only announced when the maneuver is actually made. A ship is not required to announce, during the Speed Declaration Step, if it has the power allocated for such a maneuver. The controller will announce the movement impulses for Speed 4 in any case when a ship is at Speed Zero, or when required by (C5.532). If the controller wants to be helpful, he could warn such ships one impulse in advance that they may be about to lose an earned Tactical Maneuver under (C5.232).

(C5.443) Upon making such a maneuver, the player is not required to announce if the power was from allocated or reserve energy, but must announce if it was a warp or sublight Tactical Maneuver.

(C5.5) COMBINING TACTICAL MANEUVERS AND MOVEMENT

It is possible, by using the Emergency Deceleration (C8.0) or Changing Speed in Mid-Turn (C12.0) rules to use movement and Tactical Maneuvers during the same game turn.

(C5.51) EMERGENCY DECELERATION: After coming to a halt with emergency deceleration, a ship can use Tactical Maneuvers; see (C5.53). These can only be paid for with reserve warp or reserve impulse power. They cannot be paid for during Energy Allocation because a unit cannot plot movement in anticipation of emergency deceleration (C8.25) and must have a legal speed plot for the entire turn (C1.34).

If a moving ship had allocated energy for Tactical Maneuvers [possible with a plotted speed change to zero under (C12.0) Speed Changes] and then used emergency deceleration, the energy allocated for Tactical Maneuvers would be transferred to the shields along with all other unexpended movement energy as in (C8.1).

(C5.52) TEMPORARY HALTS: If at Speed Zero (C5.41) during part of a turn [using (C12.0) speed changes], the ship can make Tactical Maneuvers during that period; see (C5.53). These must be paid for during energy allocation or made with reserve warp engine or reserve impulse power. A ship could plot a low speed in the first part of a turn, then Speed Zero with Tactical Maneuvers in the middle of the turn, followed by movement at a low speed (due to acceleration limits) during the final portion of the turn.

If using plotted movement, see restrictions under (C3.443).

(C5.53) USING TACTICAL MANEUVERS: In either case (C5.51) or (C5.52), the ship can use sublight and/or warp Tactical Maneuvers within the following restrictions.

(C5.531) SUBLIGHT maneuvers cannot be made on the impulse after the ship comes to a halt. Because only one point of impulse power can be used for any movement function except as provided in (C2.111), a ship will not have reserve impulse power if it used any impulse power for normal movement during the turn. See (P8.43) when using impulse power for orbital stabilization.

(C5.532) WARP: The ship "earns" (or earns the right to buy with reserve warp engine power) its Tactical Maneuvers on the Speed 4 column as per (C5.23), but cannot make the first such maneuver until four impulses after coming to a halt. A ship which stops in mid-turn by ED (Emergency Deceleration) can purchase Tactical Maneuvers, through reserve warp power within the limits of the Tactical Maneuver rules, e.g., a ship which completes ED on Impulse #21 could only purchase one Tactical Maneuver (i.e., the one available from Impulse #24 to the end of the turn) because of the four impulse delay, and would not be able to perform this Tactical Maneuver until Impulse #25. If Tactical Maneuvers are allocated for a turn, and a ship uses reserve warp power to perform an unplotted acceleration, they are still available provided that the ship stops by means of a deceleration later in the turn and not by ED. An example would be a non-plotted deceleration to Speed Zero by only purchasing Speed 4 for a period of eight impulses with reserve power, Speed 4 being the maximum speed from which a ship can decelerate to zero from (C12.32). Note, however, that since you cannot decelerate for at least eight impulses (C12.242) unless you are a nimble ship (C11.28), you will "lose" one earned Tactical Maneuver, but "gain" another.

(C5.54) HIGH ENERGY TURNS: The ship could also use an HET if it had been previously allocated or if reserve power is available. An HET could be done on the impulse after stopping or on any subsequent impulse (within the HET rules). See (C6.35) and (C8.42).

(C6.0) HIGH ENERGY TURNS *(Advanced)*

All warp-powered ships are capable of attempting "high energy" turns. Basically, such a turn requires the application of warp energy force to bring the ship onto a new heading with a "snap turn." These maneuvers are dangerous, however, and if improperly performed (and sometimes even if they are properly performed) can result in serious damage to the ship.

NOTE: While these rules are written for "ships" (which include PFs and Interceptors, but in this case does not include bases), certain "non-ship units" can use a limited or special version of the HET rules. See (C6.4).

(C6.1) PROCEDURE

The effect of a High Energy Turn is to, at the point for which it is plotted, turn the ship TO FACE ANY ADJACENT HEX regardless of whether or not it has satisfied its Turn Mode. [See (C6.39) for a limitation.]

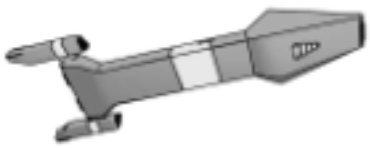
High Energy Turns may be made during the Movement Segment of any impulse, regardless of whether or not the ship is scheduled to move, within the restrictions of (C6.3), and subject to a possible breakdown (C6.5).

(C6.11) FREE MOVEMENT: If using free movement (C1.31), the player can use an HET at any point during the turn so long as power is available (C6.22). A ship that allocates energy for an HET (when using free movement) is not required to expend it. Any unused energy is lost.

(C6.12) PLOTTED MOVEMENT: If using plotted movement (C1.32), the specific impulse on which the HET will be performed must be plotted in advance. If the ship performs emergency deceleration, the HET can be conducted on any impulse after the ship stops.

EXAMPLE: Movement plot for Speed 21: 7A, 6B, HET/21/E, 8E. This would indicate that on Impulse #21, after the first thirteen impulses of movement had been completed, a High Energy Turn would be used to change direction 180°.

(C6.13) HETs ARE NOT MOVEMENT: The act of making an HET is not movement and is not included within the practical speed (C2.411) or effective speed (C2.412). It will not set off mines or cause asteroid damage. It does not in itself move the ship into the next hex. HETs are not movement, but do count as part of the maneuver rate; see (C2.42).



Hydran Mongol

(C6.2) POWER FOR HIGH ENERGY TURNS

(C6.21) COST: Each High Energy Turn requires warp energy equal to five hexes of movement. The cost must be paid in addition to any energy used for movement.

Exceptions: Poor Crews (G21.122), Outstanding Crews (G21.222).

(C6.22) SOURCE: Energy for HETs must come from warp engines (or reserve warp engine power); it cannot come from AWRs. See (H7.48) and (H7.6). See (C12.38).

(C6.3) RESTRICTIONS AND CONDITIONS

(C6.31) ACCELERATION: High Energy Turns do not affect acceleration and are not affected by it. They are not part of the practical speed (C2.411).

(C6.32) TURN MODE: After a High Energy Turn, Turn Mode calculations (for normal turns) and sideslips must begin again, starting in the hex in which the HET was made (i.e., an HET resets the turn and sideslip modes to zero). A ship need not have fulfilled its Turn Mode to make an HET. See (C3.45).

(C6.33) IMPULSES: A ship may make a High Energy Turn during any impulse whether it is scheduled to move or not. If the HET is made during an impulse in which the ship is scheduled to move, the HET is resolved first (turning the ship to a new facing and resetting its turn and slip modes), and then movement is executed. HETs are conducted at whatever point in the Order of Precedence (C1.313) that the unit conducts normal movement. Units at Speed Zero HET first within each category. Note that a HET is not a Tactical Maneuver and is executed when the ship (or fighter) moves, not when a ship (or fighter) would Tactical Maneuver in the order of precedence (C1.313).

(C6.34) NUMBER: Subject to available energy and the other rules [e.g., (C6.36) limits most ships to four], a ship may make any number of HETs during any given turn. See also (C6.4) for non-ship units.

(C6.35) COMBINATION WITH TACTICAL MANEUVERS: A ship may use High Energy Turns on the same turn as Tactical Maneuvers; see (C5.54). This can be done on the same impulse.

(C6.36) SEQUENCE: An HET may not be performed within 1/4 turn of a previous HET or Quick Reverse; see (C3.62).

(C6.37) HET NOT ALLOWED: No unit may make an HET on the first impulse of the turn, while docked (C13.924), while docking (C13.16), while undocking (C13.23), or while part of a pinwheel (C14.12), or if uncontrolled (G2.212). Exception (F2.135).

(C6.38) POST-HET RESTRICTIONS: During the impulse that a ship performs an HET and for 1/8 of a turn (four impulses) thereafter, the ship cannot: dock with another unit, be docked by another unit, launch or recover PFs, launch or land shuttles (including those on a seeking course), lay mines from a bay or rack, or launch or recover satellite ships.

Exception: units escaping a doomed ship (D21.4).

EXAMPLE: A ship that HETs on Impulse #15 is under these restrictions until the beginning of the movement segment of Impulse #20.

EXAMPLE: A ship that HETs on Impulse #32 would not be able to launch a wild weasel until Impulse #5 of the following turn.

(C6.39) 180° LIMIT: No HET can exceed 180°. (This may seem to be a meaningless rule, but is required to prevent a technical loophole in the seeking weapons rules.) See (G7.55).

(C6.4) NON-SHIP UNITS

Some non-ship units can make High Energy Turns.

(C6.41) SEEKING WEAPONS: Seeking weapons may perform HETs; see (F2.13). [Note that (C6.39) prevents a seeking weapon from making a meaningless HET to waste time en route to the target.]

(C6.42) FIGHTERS: Fighters may make one (and only one) HET per turn, but never roll for breakdown. Non-fighter shuttles cannot perform HETs unless specifically allowed this capability in their own rules section. Crippled shuttles cannot do HETs (J1.336).

(C6.5) BREAKDOWN

There is a considerable possibility that a High Energy Turn could result in a breakdown. This is an event a bit more disastrous than having the chessboard slide off of the captain's desk and somewhat (but only a little) less catastrophic than having the engines fall off.

(C6.51) PROCEDURE: Whenever a ship performs an HET, roll a single die to determine if the ship has suffered a breakdown. If the die roll result, after adding any adjustments, is equal to or greater than the numbers specified in the ship's breakdown rating, the ship suffers a breakdown.

(C6.511) There are several possible modifications to this die roll, including crew quality (G21.121) and (G21.221), first use (C6.52), tractors (G7.322), Erratic Maneuver (C10.55), previous breakdowns (C6.544), Legendary Navigators (G22.86), and others so specified in their respective rules. Any modifiers applied to the breakdown rating (etc.) also apply to the possibility of pod separation (C6.56).

(C6.512) The die roll is made after the ship changes facing but before it moves into the next hex.

(C6.513) A unit cannot voluntarily break down.

(C6.514) DOCKED SHIPS (C13.948) and PFs on tow-bars (K1.25) have special conditions when they suffer a breakdown.

EXAMPLE: The breakdown rating for a Klingon D7 is 5-6. Whenever the ship makes an HET, roll a die. If the result is five or six (after certain adjustments), the ship has suffered a breakdown.

(C6.52) FIRST-USE ADJUSTMENT TO BREAKDOWN DIE ROLL: On the first HET during each scenario, two is subtracted from the die roll when determining the possibility of breakdown. Note that this adjustment is once per SCENARIO and NOT once per TURN. Each ship can do this once, not each fleet.

(C6.521) Nimble ships (C11.0) and Orion ships (G15.0) subtract two from the die roll of the first and second HET each scenario. Nimble Orion ships do not get both benefits.

PFs, which are nimble, get only one bonus, not two (K1.23). Orion PFs act as PFs, not as Orion ships. Note that Orion PFs do not get a double nimble bonus, but only a single bonus (K1.23).

(C6.522) Freighters, naval auxiliaries built on freighter hulls, warp-powered booms and saucers, auxiliary carriers, auxiliary cruisers, Q-ships, and all crippled ships (S2.41) do not receive an adjustment to the breakdown die roll. Certain other ships also have this limitation; if so, it will be listed in the ship specifications.

(C6.523) There is no adjustment to the breakdown rating for speed, but the speed of the ship does affect the amount of damage that results from a breakdown; see (C6.562).

(C6.524) This bonus cannot be used for a quick reverse (C3.63).

(C6.53) ASSIGNMENT OF BREAKDOWN RATINGS: Each ship is assigned a breakdown rating on the MASTER SHIP CHART. These are also shown in the Ship Data Table on each SSD.

(C6.54) EFFECTS OF BREAKDOWN: Whenever a ship suffers a breakdown, it suffers the following effects:

(C6.541) The ship immediately stops [unless it "tumbles" (C6.55)]. Roll one die and face the ship in the resulting direction. All allocated movement energy (including EM, Tactical Maneuvers, and HETs) is lost. The ship may not move (including HETs and Tactical Maneuvers) for sixteen impulses after the impulse in which it broke down. This is known as the "post-breakdown period." After this period, the ship could resume normal movement (e.g., it could do a Tactical Maneuver with reserve power).

(C6.5411) If the post-breakdown period extends into the next turn, the ship remains at Speed Zero for the required first several impulses of the next turn, then accelerates from that point, paying for a full turn of movement even though it does not receive part of it. [If using (C12.0), the ship pays, for this non-moving period, at the rate for the highest speed used during that turn.]

(C6.5412) If this post-breakdown period does not extend to the end of the turn, the ship could begin moving with reserve power (C12.24) after the sixteen impulses are over.

(C6.542) A ship which suffers a breakdown receives the following damage as a result of the breakdown:

(C6.5421) One third of the crew units (including at least 1/4 of the boarding parties and 1/4 of the deck crews) are killed. (This is based on the number of such units on board at the time of breakdown. Round fractions down when calculating the losses.) The full crew unit casualties must be scored, but cannot include the last two crew units (G9.22). Note that in the case of a ship with few crew units and many boarding parties (e.g., a troop ship) the ship may lose no actual crewmen but dozens of boarding parties will die like dogs. Additional crew losses may result from the resolution of internal damage. Also, 1/4 of any enemy boarding parties on the ship are lost; they do not count toward the requirement for friendly crew or BP losses. Assigned guards are not "knocked out" but will be killed if the box they are guarding is destroyed (D7.832).

(C6.5422) Every fifth warp engine box is destroyed (round fractions down when calculating these losses). This is distributed as evenly as possible between the ship's engines; any odd points are distributed by the owning player at his option.

(C6.5423) The ship suffers two interior damage points, distributed randomly and immediately by the DAMAGE ALLOCATION CHART (D4.21). This damage (as well as that resulting from tumbling and pod separation) is resolved as a single volley; the phaser directional restriction (D4.321) does not apply.

(C6.543) Any repairs (by any means, on or by the unit which broke down) are aborted. Accumulated repair points for incomplete repairs are lost immediately; they cannot be converted into hasty repairs.

(C6.544) Each breakdown reduces the breakdown rating by one for the remainder of the scenario. For example, 4-6 becomes 3-6 (and possibly 2-6 and 1-6 later, although it can never get worse than 1-6). Nimble ships lose all benefits of that status (C11.2) for the remainder of the scenario after a breakdown.

(C6.545) All stasis fields (G16.311) and expanding spheres (G23.0) generated by the ship suffering the breakdown are lost (deactivated) immediately. All tractor beams (G7.0) generated by the ship suffering the breakdown are released; those attached to the ship by other units remain attached except as per (C6.553).

(C6.546) No deck crew activities (J4.8) can be performed or completed on that turn. Any activities begun on the turn of the breakdown are cancelled and will have to be started over. One half of the boarding parties (on each side) that were on the ship at the time of the breakdown cannot participate in combat (or function as guards) during the post-breakdown period or in the Boarding Party Combat Step at the end of the turn on which the ship broke down. (They are still present and would have to be eliminated to capture the ship; they simply cannot fight back.) Boarding parties transported aboard after the breakdown function normally.

(C6.547) A ship suffering a breakdown is under the following restrictions for the subsequent eight impulses (even if this extends into the next turn):

(C6.5471) No weapons (see Annex #7D) may be fired.

(C6.5472) No shuttles, PFs, satellite ships, or fighters may be launched or recovered, except as per (D21.4). Sections cannot be separated (G12.0).

(C6.5473) No seeking weapons may be launched. [Plasma torpedoes may be launched using (FP1.7) during this time, but only on the eighth impulse after destruction of the launcher.] See (FP1.14).

(C6.5474) No transporters or tractor beams can be used.

(C6.548) If a ship is docked inside a larger ship, and the larger ship suffers a breakdown, the ship inside also suffers the full effects of the breakdown, which are resolved independently. This does not apply to shuttles, except that shuttles on a balcony are destroyed. This does not apply to PFs.

(C6.549) Breakdown does not affect a cloaking device. [If using (D22.0), the resulting damage may reduce power below that required to operate the cloak.]

NOTE: While it is not a formal rule, experience has shown that any ship which breaks down during a battle probably will not survive that battle.

(C6.55) TUMBLING AS A RESULT OF A BREAKDOWN *(Commander's Level)*: In the event of a breakdown, roll one die. If the result is a "1," the ship has begun "tumbling" and suffers the following effects:

(C6.551) The ship CONTINUES (for the duration of the post-breakdown period) moving in the direction, and at the speed, that it was moving BEFORE ATTEMPTING the HET regardless of its facing. Exception: (C6.563). See (P2.435) in the event the unit tumbles into a planet hex. A ship cannot tumble off of a fixed map; if it is about to do so it will stop in the last hex.

(C6.5511) Every impulse for the remainder of the post-breakdown period, during the Final Functions Stage of the Activity Segment, roll one die and turn the ship to face (C1.21) in the indicated direction. (In all probability, the ship will be facing in a new direction almost every impulse.) Also note that in this case facing will have nothing to do with movement.

(C6.5512) Any previously plotted speed changes (C12.0) during the period of tumbling are ignored. Any effects of (D22.0) on the ship's speed are ignored.

(C6.5513) Damage due to mines, ESGs, webs, asteroids, and other terrain effects is based on the speed during tumbling and on the shield determined by the die roll. This is an exception to various rules on the "leading" shields of a unit taking such damage.

(C6.552) Ships that are tumbling cannot fire weapons or take any other action. There are no exceptions to this rule, not even Q-ships (R1.7).

(C6.553) Ships that are tumbling are considered to be using Erratic Maneuvering (C10.0). (If you do not have *Advanced Missions*, this can be simulated by adding four ECM points to the tumbling ship.) If the ship was held in a tractor beam, the beam is released by the violent gyrations of the ship. A tumbling ship cannot be tractored.

(C6.554) At the end of the post-breakdown period, the ship comes to a stop with a speed of zero and its final facing is determined by die roll on the last impulse; see (C6.5511).

(C6.555) Roll one die and score extra crew units killed AND extra points of internal damage equal to the result. This cannot kill the last two crew units; see (G9.22). This is in addition to the damage from the breakdown itself (C6.542) and is combined with that damage into a single volley. This additional damage occurs only one time, not on every subsequent impulse. PFs are exempted from this extra damage.

(C6.556) A ship that tumbles into an atmosphere hex without a planetary surface comes to a stop immediately. It must roll for breakdown again upon entry to the hex, but cannot tumble.

If there is a planetary surface in the hex, the ship crashes, i.e., is destroyed without any chance of survivors; see (P2.435).

(C6.557) A tumbling ship cannot use emergency deceleration.

(C6.558) During every impulse of tumbling, (C6.546) and (C6.547) are in effect. See also (FP1.14).

(C6.56) EFFECT OF BREAKDOWN ON TUGS: The ungainly transport tugs (including Light Tactical Transports), with their fragile pods, suffer more damage as a result of breakdown than most ships.

This rule does not apply to units (PFs, shuttles) held on mech-links; it applies only to pods/pallets/packs, although resulting damage could be scored on PFs attached to a pod that breaks down. This applies to any ship carrying a real pallet, cargo pack, or pod (not a pseudo pod). It does not include "internal" cargo (on the SSD of the ship, not part of the pod), such as the Hydran Tug or the Romulan SkyHawk-H.

(C6.561) In the event that a tug carrying pods suffers a breakdown, roll again for each pod. If the result (with all modifiers used in the original die roll) is within the breakdown range of the tug (before this breakdown), the pod has separated.

(C6.562) If a pod separates, immediately apply one point of damage (directly by the DAC) to the tug (not including still-attached pods) and one to the pod (and one point to any still-attached pod) for each unit of the tug's practical speed (before the breakdown).

(C6.563) The pod is detached from the tug and remains in that hex; the tug tumbles (C6.55). The pod does not tumble. Any seeking weapons targeted on the tug accept the pod as their target. If two pods separate, arbitrarily assign one pod the numbers 1-3 and the other the numbers 4-6 and roll a die for each weapon, with the weapon accepting the corresponding pod as its target.

(C6.564) Pod docking arrangements have an effect on pod separation.

(C6.5641) In the case of a Federation tug (which attaches the second pod to the first one), roll for each pod. Separation of the first (i.e., forward) pod means the loss of both. The two pods then separate from each other without further damage as a result of that separation.

(C6.5642) In the case of tugs with side-by-side mounting (G14.43), if only one pod separates the tug tumbles with the other pod still attached. After the tug stops, it will have to drop (and could reattach) the pod before resuming operations. It could also drop the pod, tow it by tractor back to the point where the first pod was dropped, and then reattach both.

(C6.565) If a separated pod is manned, roll one die and score this number of crew casualties to the crew and passengers of the pod. This is in addition to (C6.542), but cannot kill the last two crew units (G9.22).

(C7.0) DISENGAGEMENT

In some cases a starship captain may find himself in a situation that he (or rather his ship) cannot handle. In these cases, the only thing to do is to leave. Combat at extreme speeds (those over 31 hexes per turn) is virtually impossible due to the tremendous amounts of energy required to simply move the ship at those speeds and the inability of the weapons tracking systems to function accurately.

In cases where one starship captain simply accelerates his ship out of the area, the other captain will not normally follow (at least not closely) as he may be led into a trap. In game terms, this is disengagement.

There are four means of disengagement: acceleration, separation, sublight evasion, and automatic.

Bases and pinwheels (C14.14) cannot disengage.

(C7.1) DISENGAGEMENT BY ACCELERATION

(C7.11) PROCEDURE: On a given game turn, the starship wishing to disengage by acceleration must move (for the entire turn) at the maximum possible practical speed which it can, as restricted by available warp engine power (which may have been reduced by combat) and the game imposed speed limit of 31. At the end of that turn, if the starship in question still has total warp power available equal to either 50% of his original warp power (rounding fractions up) or fifteen points of warp power, whichever is lower, the owning player simply announces that he is "disengaging." His ship is then removed from the board and presumed to return to its nearest base. If the disengaging ship is the only unit (on that side) of the scenario, the scenario is over. Note: Ships that do not have, or never had, warp engines cannot disengage by acceleration.

EXAMPLE: A Klingon cruiser finds itself outnumbered by four Kzinti cruisers. The owning player elects to disengage. He moves one turn at a speed of 24 (which is the maximum he could reach because of acceleration restrictions) and on the next turn accelerate further to 29 (he cannot go 31 as he has taken two engine hits). During that turn, the Klingon ship is badly damaged, and warp engine power is reduced to fifteen. The ship may still break off the action by disengaging since fifteen is 50% of the original 30 warp engine boxes. If the warp engines had been reduced to fourteen or fewer factors, the Klingon could not disengage and would likely have been destroyed.

(C7.12) RESTRICTIONS: The following restrictions apply to disengagement by acceleration.

(C7.121) The conditions of (C7.11) must be fulfilled based on engine power available at the beginning of the turn. A Federation CA (movement cost = 1), for example, has 30 warp engine boxes at the beginning of the turn but cannot move faster than 24 due to acceleration. It is, during that turn, reduced to 24 (or fewer) engine boxes but CANNOT disengage that turn. It must move another turn at what is now its maximum speed (24) before disengaging. The reason for this is that a ship must "prepare" for the transition to high translight speeds, and such preparations must be timed very closely. A ship not moving at its maximum speed would not know for sure that enemy fire will reduce its maximum speed to its current speed and could not make the preparations.

(C7.122) If held in an enemy tractor beam, expending energy for movement (even if not actually moving) satisfies the requirement. The act of disengaging breaks the tractor (G7.28).

(C7.123) A ship can only disengage by acceleration while moving forward. A ship cannot disengage by acceleration if the area directly ahead is blocking terrain (asteroids, minefield, large planet, etc.). To qualify, the minefield would have to be a formal minefield placed before the scenario began; mines laid during a scenario would not count. The planet would have to be large enough (and/or the ship close enough) that the ship could not avoid the planet with sideslips if the ship continued moving without turning.

(C7.124) The term "maximum possible speed" as used in the first sentence of (C7.11) does not include any energy spent for life support, shields (not reinforcement), or fire control. The ship may make these expenditures and then calculate its maximum speed based on the remaining energy. Note that this does not apply to calculating the ship's original movement-capable warp power as per (C7.11), which requires 50% (or fifteen boxes) to be available (i.e., undestroyed, even if some of this was paying for the above non-movement items). Within the restrictions of this rule, the ship may fire any weapons it has charged (including the launching and guiding of seeking weapons), or had the excess, usually non-movement, power to arm while it was attempting to accelerate away.

(C7.125) A ship held in web must break out of the web before it can disengage (G10.58). This breakout can be on the turn of disengagement.

(C7.13) FIGHTER DISENGAGEMENT BY ACCELERATION: Fighters (not non-fighter shuttles, but including MRS and SWAC shuttles) can disengage by acceleration within the restrictions and conditions given here. See (J1.71) and (J1.72).

(C7.131) The fighter must move for an entire turn at its maximum possible speed. It cannot fire, launch, or control any weapons during this turn. Note that fighter EW rules (EWFs, Pods, and lending from the carrier) and chaff packs function normally during this period.

(C7.132) At the end of the turn (C7.131), if the fighter is not crippled, the fighter may be declared (by its owner) to have disengaged.

(C7.133) The fighter must fulfill the conditions of (C7.123).

(C7.134) A fighter held in an enemy tractor beam cannot disengage.

(C7.2) DISENGAGEMENT BY SEPARATION

(C7.21) PROCEDURE: If, during the Lock-On Stage of any impulse, a given unit is not within 50 hexes (effective range) of any enemy ship, then that unit may, at the owning player's discretion, be deemed to have disengaged. See (C7.23).

An enemy unit held in a tractor beam (i.e., a smaller unit being dragged off the map to be captured) does not count for this purpose if there are other enemy units in the scenario which are not in the same condition. This means that you can get away with hauling off a captured ship if no one else is around to interfere with you.

Note that as cloak increases effective range, a cloaked ship could disengage at a shorter true range.

(C7.22) SEEKING WEAPONS: If seeking weapons are on the map targeted on the unit, the unit cannot disengage by separation until those weapons are resolved (i.e., run out of endurance, lose tracking, are destroyed, etc.). If there is no possibility of the seeking weapon catching the escaping unit (i.e., escaping unit is faster, or the weapon is faster but does not have the endurance to close the range), this does not apply.

(C7.23) SCOUTS: A unit must be more than 75 hexes (effective range) from an enemy scout ship (with operating and unblinded special sensors) in order to disengage by separation (in addition to the other requirements).

(C7.24) TRACTOR BEAMS: Disengagement by separation does not break tractor beam links. Any units which the disengaging unit is holding in tractor beams remain held.

(C7.25) FIXED MAP: Some scenarios used fixed maps and include a rule stating that any unit which leaves the map has disengaged and cannot return. This is a form of disengagement by separation, but is not subject to the conditions of (C7.21) through (C7.23).

(C7.26) OTHER PURSUING UNITS: The unit attempting to disengage by separation must be more than 35 hexes from enemy PFs or manned shuttles.

(C7.3) DISENGAGEMENT BY SUBLIGHT EVASION

Ships without warp engines (including sublight ships such as the Warbird, separated booms from Klingon ships, separated saucers from Federation ships, ships that have dropped their warp engines, etc.) can disengage by sublight separation. Note that only dropping the warp engines (G12.6), not the mere act of turning them off, counts for this purpose. Destroyed warp engines must be dropped in order to sublight disengage.

(C7.31) PROCEDURE: The player owning a ship wishing to disengage by this method rolls one die during the Final Activity Phase and makes the adjustments listed below. If the adjusted result is "3" or less, the ship has successfully disengaged.

(C7.32) ADJUSTMENTS: The following adjustments to the die roll are made:

-1 for every friendly ship (not shuttle) within 35 hexes not also attempting to disengage (by any means).

+1 for every uncrippled enemy ship (not shuttle) within fifteen hexes.

Remember that "ship" includes bases and PFs, while "shuttle" includes fighters.

(C7.33) IMPULSE REQUIREMENT: A ship without any impulse engines cannot disengage by sublight evasion. This is one reason why Klingon booms have impulse engines that can be protected with circuit breakers (G12.71), but note that those engines (H3.5) cannot be used for movement while the boom is attached to the hull.

(C7.34) TIME OF ATTEMPT: This can only be attempted once per turn at the end of the Final Activity Phase.

(C7.35) TRACTOR BEAMS: Disengagement by evasion does not break tractor beam links. If the ship attempting to disengage is held in a tractor beam, it cannot disengage by evasion. A ship attempting to disengage by evasion must drop any of its own tractor beams (to reduce its electronic signature on enemy scanners).

(C7.36) BLACK HOLES: If the unit attempting sublight evasion is within 30 hexes of a black hole, it cannot escape and is deemed destroyed if disengagement is declared.

(C7.37) SEEKING WEAPONS treat a ship that disengages in this manner as a "destroyed target" and become inert.

(C7.4) AUTOMATIC DISENGAGEMENT

In certain circumstances or scenarios, a ship may be designated by the rules to disengage "automatically." One case would be a Klingon ship in a monster scenario, which automatically disengages after a successful mutiny. In this procedure, the ship is simply taken from the board and considered to have disengaged.

This form of disengagement is specified in some monster scenarios, where the monster has no desire to pursue the ship.

(C7.5) DISENGAGEMENT CONDITIONS AND RESTRICTIONS

In cases of disengagement, there may be ongoing situations that must be resolved, even if this means continuing the scenario past the point at which it "ended."

(C7.51) BOARDING PARTIES on board an enemy ship that is disengaging must continue to fight until they capture the ship or are destroyed. For humanitarian or simply practical considerations, boarding parties in a hopeless situation may be ordered to surrender by the controlling player. Should they capture the ship, it is presumed that they force it to stop and their own vessels catch up.

In a similar manner, boarding parties on an enemy ship that are left behind when their own ship disengages may surrender or fight on to victory or death. If they capture the ship, they operate under (D7.5).

If using (D16.0), see (D16.82) and (D16.83).

(C7.52) SHUTTLECRAFT LEFT BEHIND by a disengaging ship may attempt to escape using sublight evasion (C7.3). Fighters, MRS, and SWACS can use (C7.13).

(C7.53) SEEKING WEAPONS targeted on a disengaging unit [except one disengaging by separation, (C7.22)] lose their tracking and cannot pursue it (if it successfully disengaged). Seeking weapons targeted on units remaining behind must be resolved before the scenario can end. Note that if the unit controlling a seeking weapon is destroyed or disengages, the weapon is released (F3.4) and can be transferred (F3.5).

(C8.0) EMERGENCY DECELERATION *(Advanced Rule)*

All ships may use emergency deceleration to bring themselves to a rapid stop. This might be done to avoid running into an obstacle (perhaps a previously unknown minefield or perhaps some other object after the ship has been displaced by Andromedans), to meet the low-speed requirements to launch a wild weasel, or to allow the ship to move quickly to a key position and then stop once it has reached it.

Early translations of the source data indicated that emergency deceleration was restricted to Federation ships. This information has now been found to be incorrect. While Federation ships first developed the maneuver, other empires copied it shortly thereafter.

There are circumstances under which a ship normally able to use this maneuver cannot; e.g., (C8.26).

These rules are written for "ships" (which includes PFs but, in this case, not bases). Shuttles can use a form of emergency deceleration; see (J1.223) and (J4.13).

(C8.1) PROCEDURE

(C8.10) PROCEDURE: During the Impulse Activity Segment of any impulse during any turn (at the appropriate step in the Sequence of Play), a player may announce his intention to use emergency deceleration for one or more of his ships.

(C8.101) At the end of the Movement Segment of the second subsequent impulse (including those in which the ship does not move), the ship stops and is subject to post-deceleration restrictions (C8.4).

(C8.102) All unused movement energy (including previously allocated Tactical Maneuvers but not previously allocated HETs) is calculated, and the amount is divided in half (drop fractions). This amount is added to the general shield reinforcement power or to specific shields by (C8.11) at the end of the movement segment (6A4), e.g., after the Damage During Movement Stage; the rest is lost. Braking energy (C3.52) allocated but not yet used is treated as movement energy, i.e., half of the energy allocated becomes shield reinforcement and the rest is lost.

For purposes of this rule, any impulse power for normal movement is considered to have been the first point of power expended. Impulse power allocated for an unexpended Tactical Maneuver is treated as above, and if the ship has a movement cost other than 1.00 will require attention in (C8.112).

See (C8.23) for energy allocated to EM.

EXAMPLE: The Federation CC *Kongo* is moving at Speed 16 when six Klingon drones are released from a scatter-pack shuttle which had been launched by the D7 *Antagonist*. Having no phasers that will be able to fire before the drones arrive, and having neither the speed to outrun the drones nor enough tractor beams to hold them at bay (obviously due to poor planning), Captain Kosnett decides to use a wild weasel to decoy the drones away from his ship. However, the *Kongo* is moving too fast to use a WW, and Kosnett

orders emergency deceleration on Impulse #15. The *Kongo* moves on Impulse #16 and then, on Impulse #17 (after movement on that impulse), stops and launches the WW. The *Kongo* does not move when next called for on Impulse #18. There are eight unused movement points (each costing one point of power). This translates into four points of shield reinforcement, which Kosnett assigns to the shield facing the *Antagonist*. Had he assigned these to general reinforcement, he would have received only two points of shielding as general reinforcement costs two energy points per shield point.

If the drones had been released from a very close position, they might have been able to strike the *Kongo* on Impulse #17 (in the Movement Phase, before the WW could be launched as shuttle launch is later in the Sequence of Play). If Kosnett had a copy of *Advanced Missions*, he might have used two points of reserve power to accelerate to Speed 17, because careful study of the Impulse Chart shows that while a ship moving at Speed 16 does not move on Impulse #17, a ship moving at a speed of seventeen does. This moves the ship one hex farther from the drones and gives it time to launch the WW before the drones arrive. In this case, there would still have been eight unused movement points (resulting in four points added to the shield).

(C8.11) SHIELDS: The power added to the shields may be added to any one shield selected by the owning player or divided in any manner between the three shields of either group (forward shields group includes #6, #1, and #2; rear shields group includes #3, #4, and #5). It could not be divided between shields from both groups.
(C8.111) The energy released by emergency deceleration is not reserve power and is not treated as such. It can only be used for the shields as described in the rule.
(C8.112) Note specifically that this procedure is calculated in terms of power, and not with movement points or points of shield reinforcement. A ship with a movement cost of 1/2 would gain only half as much shield reinforcement as one with a movement cost of one. (This assumes two ships at the same speed doing ED at the same point.)

(C8.12) HETs: Power allocated (but unused) for HETs is not translated into shield energy by the decel maneuver and remains available to the ship to use within the normal rules. The ship could make an HET during the deceleration period or the post-deceleration period (and before the end of the turn). See (C6.35) and (C5.54).

(C8.13) ANDROMEDAN SHIPS which use emergency deceleration simply lose the excess movement energy. It does not go to the panels or batteries. (Consider the implication for Terminators if it did!)

(C8.2) CONDITIONS AND REQUIREMENTS

(C8.21) STOPPING: Emergency deceleration can only be used to stop. It cannot be used to simply reduce speed. A ship can declare Emergency Deceleration even while it is not moving in order to cancel planned acceleration under (C12.0).

(C8.22) ATMOSPHERE: Ships in an atmosphere can perform emergency deceleration if there is no other restriction. See (C8.414).

(C8.23) ERRATIC MANEUVERS: A ship using EM (C10.0) which subsequently uses emergency deceleration loses the effects of EM at the point when the ship stops and does not gain extra shielding for EM energy.

Energy allocated for EM but unused is lost at the time of emergency deceleration. See (C8.43) to begin EM after decelerating.

(C8.24) POSITRON FLYWHEEL: The use of emergency deceleration stops the positron flywheel; see (C9.23).

(C8.25) CANNOT BE PLOTTED: Emergency deceleration modifies an existing legal speed plot and cannot, itself, be plotted. Even if the player plans to use emergency deceleration and knows precisely when and where he will do so, he must still plot and allocate energy for a full turn of legal movement. See (C1.35) and (C12.12).

It is, for example, specifically illegal to pay for only five movement points, move at Speed 31 for the first six impulses, and then use ED.

(C8.26) TUMBLING SHIPS (C6.557) cannot use emergency deceleration.

(C8.27) STASIS FIELD GENERATORS cannot be used within eight impulses of stopping by emergency deceleration, even if this extends into the next turn; see (G16.312).

(C8.28) DOCKING: Ships which have decelerated cannot dock to a base during the deceleration and post-deceleration periods; see (C13.16).

(C8.3) DECELERATION PERIOD

The two-impulse period between the announcement of emergency deceleration and the actual stopping of the ship is known as the "deceleration period."

(C8.31) MOVEMENT EFFECTS: During the deceleration period, the ship continues to function in all ways as a ship moving at the original speed. It must follow its original speed plot (which might require it to speed up or slow down). It can turn and/or sideslip (so long as it satisfies its modes), accelerate with reserve power (C12.24), perform HETs or EM, etc.

EXAMPLE: A ship is moving at Speed 20 and has a Turn Mode of four. It has moved two hexes in this direction when it discovers (on Impulse #19) that there is a minefield directly ahead. The player declares emergency deceleration (on Impulse #19) so the ship will stop on Impulse #21 (and be at Speed Zero at the end of that Movement Segment). On Impulse #20 (and #21 for that matter), the ship is scheduled to move. The player argues that he should not be required to move since "logically" his ship is slowing down and has not actually moved 10,000 kilometers, but this is false logic as the ship is still moving at the original speed while it prepares for the very sudden deceleration that will take place on the next impulse. Failing to win that argument, the player now asserts that he should be allowed to turn even though he has not satisfied his Turn Mode because, since the ship is slowing down, the Turn Mode should "obviously" be lower. This is also incorrect; the Turn Mode is the same, and the ship cannot turn unless the Turn Mode is satisfied.

(C8.32) OTHER EFFECTS: Weapons and other systems (transporters, tractor beams, etc.) are unaffected except as may be provided within these rules.

(C8.4) POST-DECELERATION PERIOD

The sixteen impulses following the stopping of the ship (not the announcement) constitute the "post-deceleration period." During this period, the ship is under certain restrictions.

(C8.41) MOVEMENT: The ship cannot move out of the hex it is in during the post-deceleration period under its own power. The ship is considered to be at a speed of zero during the entire post-deceleration period. If the ship doing the Emergency Deceleration was held in a tractor beam by another ship (or holding another ship in a tractor beam) and as a result has a point of movement delayed until after ED takes effect, it loses that point of movement. The power that would have accounted for that point of movement is regarded as used, i.e., is not available for calculations to determine reinforcement energy.
(C8.411) If the post-deceleration period is over before the current turn is completed, the ship could move out of the hex using reserve power to accelerate under (C12.24).
(C8.412) If this post-deceleration period extends into the next turn, the ship remains at zero speed for the required first several impulses of the next turn, then accelerates from that point, paying for a full turn of movement even though it does not receive part of it. [If using (C12.0), the ship pays, for this non-moving period, at the rate for the highest speed used during that turn, but cannot count it as a basis for future acceleration.] The unused movement energy from this period of the subsequent turn is treated as in (C8.102). Note that movement power that would normally be spent for movement during the post-deceleration period after an energy allocation phase is treated under (C8.102) during that subsequent turn and is converted to shield reinforcement.

(C8.413) After the post-deceleration period, the ship can reverse its direction without paying a braking cost because it has been at Speed Zero for more than the required time; see (C3.523) and (C12.37).
(C8.414) ED in atmosphere is normal except that the one point of movement power needed to fulfill (P2.80) is allowed.

(C8.42) RESERVE POWER: A ship that has used ED cannot, during the post-deceleration period, use reserve power to move.

Exception: see (C5.51) Tactical Maneuvers after Deceleration, (C5.54) for HET, and (C8.43) for Erratic Maneuvers.
EXAMPLE: If a ship declares emergency deceleration on Impulse #4, it comes to a stop on Impulse #6 during the Final Movement Actions Stage (6A4). The sixteen-impulse post-decel period then extends until the Final Movement Actions Stage (6A4) of Impulse #22, so the first chance the ship has to move out of the hex is Impulse #23.

(C8.43) ERRATIC MANEUVERS: A ship can begin Erratic Maneuvers (C10.0) with reserve power during the post-deceleration period within the limits of (C10.3).

(C8.44) OTHER EFFECTS: No other systems are affected except as specified by these rules. For example, the weapons can still be fired (although doing so would void a wild weasel, which is the most common reason for the maneuver).

(C9.0) POSITRON FLYWHEEL *(Optional)*

Scientists in the Federation (and all other empires) have experimented with a concept known as the "positron flywheel effect." This is a method of storing warp movement momentum temporarily. If used by a starship, the effect is to allow the starship to increase speed much more rapidly after a temporary reduction of speed.

Despite billions of credits spent on research and development by the Federation, the positron flywheel never did work and its use in the game is considered experimental and only for the purpose of evaluating the potential effect if it had.

Only ships (not including PFs or bases in this case) can use the positron flywheel; other units cannot.

NOTE: This rule is officially classed as "experimental" and is not considered in balancing other rules. It should never be used in competitive gaming, at least not as a player-selected option.

(C9.1) EFFECT

(C9.11) PROCEDURE: A ship equipped with positron flywheel uses the fastest speed in the four previous turns as a basis for acceleration limits. For example:

Turn	1	2	3	4	5
Speed	21	4	4	8	0-31

Using the standard rules, the fastest that this starship could move on Turn #5 would be eighteen hexes (assuming normal maneuver limits for a typical starship). Using the positron flywheel effect, it could use the speed on Turn #1 (within the last four turns) as its base and accelerate to a speed of 42. (Note, however, that a speed of 31 is the maximum allowed in he game so the full benefit of this device could not be felt, but even 31 is better than eighteen.)

When using mid-turn speed changes (C12.0), the ship must be moving at a given speed for at least eight consecutive impulses to use that speed as a basis for future accelerations under the flywheel. (The flywheel has to build up to the ship's speed.)

(C9.12) PRACTICAL SPEED: The positron flywheel is based on the practical speed (C2.411). Functions such as High Energy Turns, Tactical Maneuvers, Erratic Maneuvering, etc., are not counted as part of the speed for purposes of positron flywheel.

(C9.13) DESTRUCTION: The positron flywheel can only be destroyed by two successive breakdowns (C9.234). It cannot be destroyed by the DAC or a hit-and-run raid. It can be destroyed by the owner (to prevent capture) using the same procedure as a cloaking device (G13.162).

(C9.14) UNCONTROLLED: An uncontrolled ship (G2.27) cannot benefit from a positron flywheel.

(C9.2) RESTRICTIONS AND CONDITIONS

(C9.21) DIRECTION: The momentum stored in the flywheel is specific to the direction that the ship was traveling at the time it was stored. Thus, forward momentum cannot be used to move in reverse. If the ship reverses direction within the normal rules, all momentum stored in the previous direction is lost immediately. See (C3.553).

(C9.22) PRE-SCENARIO SPEEDS: A positron flywheel cannot use any speed which the ship used before the scenario started. It can only use a speed at which the ship moved during the scenario.

(C9.23) RESET: Some effects and maneuvers will cancel the effects of a positron flywheel.
(C9.231) Emergency deceleration stops a positron flywheel. If a ship has used emergency deceleration, it cannot use any speed prior to that point as the basis for flywheel computations; see (C8.24).
(C9.232) Docking (C13.47) stops a positron flywheel. This applies to all forms of docking to bases or ships, but does not include recovery of PFs, shuttles, or satellite ships.
(C9.233) Becoming part of a pinwheel stops a flywheel; see (C14.15).
(C9.234) If the ship breaks down (C6.5), the positron flywheel is stopped and speeds prior to that point cannot be used. If the ship breaks down a second time, the flywheel is destroyed. It cannot be repaired during a scenario; repairs at a base will require 100 repair points.
(C9.235) Braking (C3.553) stops a positron flywheel.

(C9.24) DISENGAGEMENT: To disengage by acceleration (C7.1), the ship must actually move at its highest possible speed for a complete turn (C7.11). The positron flywheel can help the ship reach this speed faster, but does not excuse the ship from the required period at that speed.

(C9.3) COST

To add positron flywheel to a ship requires a BPV surcharge of 50% (round fractions up) of the ship's basic BPV not including Commander's Options purchased under (S3.2).

(C10.0) ERRATIC MANEUVERING (Commander's Level Rule)

Units undergoing attack by a superior enemy force are often more interested in avoiding damage than they are in what little damage they could inflict. In such situations, a unit would use Erratic Maneuvering (EM - minor but sharp and random changes in course around a base course) to reduce the chances of being hit. Units often use EM when approaching a powerful enemy, such as a starbase.

(C10.1) COST OF ERRATIC MANEUVERS

(C10.11) ENERGY: The cost of EM for one turn is equal to the cost of moving six hexes for the ship using this tactic (in addition to the normal movement cost). Exceptions to this cost are listed in (C10.12) through (C10.19) below.
(C10.111) SOURCE: The energy requirement for EM must be satisfied with energy available for movement, i.e., impulse or warp engine energy. Energy from APRs, warp reactors (AWRs), Impulse reactors, Ionic capacitors, emergency warp engines on attached ship sections (H2.5) or emergency impulse engines on attached ship sections (H3.5) cannot be used for EM.
(C10.112) IMPULSE: Any amount of the energy for EM can come from impulse engines. Each unit of impulse power used for this provides the equivalent of one hex of movement for EM, regardless of the ship's movement cost, even if another unit of impulse power is used to provide an actual hex of movement. See (C2.111).
(C10.113) RESERVE: Reserve warp power (H7.42) and reserve impulse power (H7.47) may be used to initiate EM, possibly using contingent reserve (H7.6) as few ships have enough batteries for this purpose.

(C10.12) NIMBLE SHIPS (C11.23) pay a cost equal to three hexes of movement.

(C10.13) SHUTTLES and fighters use EM at a cost of one movement point per turn.

See (J6.232) for aces and (J6.222) for green pilots.

See (J5.21) in the case of warp booster packs.

(C10.131) If a shuttle (including fighters) wants to use EM, it must move for the entire turn (or for the remainder of the turn on which it is launched) at no more than the required slower speed and must record in writing (during EA if already launched, and on the impulse of launch if launched during a turn) that this is the reason that a slower speed has been adopted. The shuttle cannot cancel this written commitment and accelerate to its full speed during the turn. This does not mean that the shuttle cannot turn its EM off (or on) during a turn, only that it cannot regain the point of speed dedicated to Erratic Maneuvers during that turn.

(C10.132) Shuttles on a seeking course cannot use EM (C10.17).

(C10.133) Wild weasels cannot use EM.

(C10.134) A shuttle which is using EM and which is moving at the maximum possible speed (other than the speed lost to EM) is considered to be at "maximum speed" for purposes of (G7.55).

(C10.135) Fighters cannot perform an HET while under EM. A fighter held in a tractor beam is, technically (G7.92), not erratic and could make an HET (G7.55); it would not roll for a breakdown (J4.123). EM would resume once the tractor was broken.

(C10.14) COMPUTER-OPERATED SHIPS (G11.0) pay half of the normal cost for EM (i.e., three movement points for a normal ship, 1.5 movement points for a nimble ship). Fire (DF weapons) by computer-controlled ships is not fully penalized (G11.13); all other effects are as stated. This is not cumulative with (C10.18).

(C10.15) UNITS WHICH CANNOT USE EM: Bases and FRDs cannot use EM. Monsters cannot use EM unless specifically noted otherwise in their special rules. If any units added to the game in subsequent products cannot use EM, this will be noted in their descriptions. Crippled shuttles cannot use EM (J1.336).

(C10.16) FAST PATROL SHIPS (PFs) use EM at a cost of 3/5 (0.6) of a warp energy point per turn (K1.24). Interceptors (K3.0) use EM at a cost of 1/2 (0.5) of a warp energy point per turn. Death Rider PFs cannot use EM (K7.61).

(C10.17) SEEKING WEAPONS, including drones, plasma torpedoes, and seeking shuttles, can never use EM. If a seeking weapon is added to the game which can use EM, it will be noted in its own rules.

(C10.18) NAVIGATORS: Legendary navigators (G22.812) reduce the cost of EM by 50%. This is not cumulative with (C10.14). It is cumulative with being nimble (C10.12) and other conditions.

(C10.19) TUMBLING units are considered to be using EM (C6.553). If they have not paid the cost of EM, they use it at no cost while tumbling.

(C10.2) CONDUCTING ERRATIC MANEUVERS

(C10.21) MOVEMENT: The unit moves on the map normally (as if it were not using EM) since these maneuvers are minor in comparison with the base course. In crossing a 10,000-kilometer hex, for example, a unit using this tactic will remain within 100 km of the base (shortest) course but will rapidly and radically shift back and forth using impulse power or short bursts of warp power.

(C10.22) SPEED: EM may be performed at a speed of zero.

(C10.23) FACING: EM does not, in itself, change the facing of a unit. EM does affect Turn Modes; see (C10.55).

(C10.24) INELIGIBLE UNITS: EM cannot be conducted while the unit is:

- in a web (G10.57)
- held by a tractor beam (G7.92)
- docked to another ship (C13.923)
- docked to a base or FRD (C13.4833) (C13.763)
- in an atmosphere (P2.82)
- cloaked (G13.59)
- in orbit (P8.45)
- part of a pinwheel (C14.132)
- following (P3.232) a unit through asteroids
- clearing paths through asteroids (P3.254).

NOTE: Initiating EM may cause certain effects due to the restrictions of (C10.52). For example, a ship holding an object in a tractor would automatically release that tractor when beginning EM. Because this might be tactically undesirable, some units might (because they were unwilling to stop conducting certain actions) choose not to use EM (canceling an announcement, or simply never making one). If the unit paid for EM and never used it, the allocated power would still be lost.

(C10.3) INITIATING ERRATIC MANEUVERS

A unit intending to use EM during a given turn must pay the energy cost during Energy Allocation [or use reserve power (H7.0)] and may begin using it during any impulse of that turn.

(C10.31) STARTING EM: A given unit can only begin using EM once per turn. See (C10.35).

(C10.311) A player owning a unit that has paid the energy cost to use EM may, during Stage (6A4) of any impulse, announce that his unit will begin using EM in the Post-Combat Segment at the end of that impulse [after movement and combat; see Annex #2 the Sequence of Play, Stage (6E)].

(C10.312) An announcement on Impulse #32 takes effect on the next turn and requires that power be allocated in the intervening EA phase. This announcement is, in point of fact, required to begin EM at the start of a turn. A player may cancel his EM announcement (C10.314).

(C10.313) If a unit using EM does not announce in the Final Movement Actions Stage (6A4) of Impulse #32 that it is ceasing EM, it must pay for EM for the next turn in the EA phase. See (C10.314). Note: it is appropriate to ask if EM is being dropped at this point as it is not a secret and asking will avoid arguments.

(C10.314) During the Direct Fire Weapons Damage Resolution Stage (6D4), a player may announce that his ship is canceling his Impulse #32 announcement of EM (C10.312) or that it will not continue to use EM into the next turn under (C10.313) only under the circumstances that the damage received during this stage caused a loss of warp or impulse engine power equal to (or greater than) one-half the energy cost of EM. Movement energy lost as a result of critical hits on the subsequent "roll for critical hits" step (6D5) can also be considered for triggering this announcement, as could damage caused by enemy marines in Step 6B7.

(C10.32) STOPPING EM: A player owning a unit performing EM may, during any impulse (at the appropriate point in the Sequence of Play, i.e. 6A4), announce that his unit will stop using EM at the end of that impulse. Regardless of what portion of the turn has elapsed, any energy paid for EM is lost and the unit cannot return to EM until the next turn (assuming it pays the cost to do so).

Using emergency deceleration (C8.23) will stop EM; see that rule for details on energy resolution.

See (C10.35) when continuing EM from one turn to another.

See (D22.53) for canceling EM under Energy Balance Due to Damage.

(C10.33) PLOTTED MOVEMENT: Players using plotted movement (C1.32) are not required to plot the hex where they will start or stop EM. They may do this at any point during the turn where they judge they will gain the best tactical advantage. Note that using EM will change the ship's Turn Mode (C10.55) and may delay previously-plotted turns.

(C10.34) SEQUENCE OF PLAY: The point at which the option to announce the adoption or dropping of EM is specifically designated on the Sequence of Play [Annex #2; Final Movement Actions Stage (6A4)]. This announcement may be made on any impulse, whether or not the unit in question actually moved on that impulse. See (C10.313) and (C10.314) for additional restrictions and clarification. Involuntary cancellations of EM due to (D22.53) can occur at various points (when the damage causing the power imbalance is resolved).

(C10.35) CARRYOVER: A unit that was using EM on the last impulse of the previous turn, and which has paid the cost of EM for the current

turn, may continue to use EM without the one-impulse delay of announcement. Its use of EM is considered to be continuous. This does, however, count as the one time per turn that the unit may start using EM (C10.31). See (C10.313).

(C10.4) EFFECT OF ERRATIC MANEUVERS

(C10.41) ECM EFFECT: Using EM produces the effect of four points of ECM. Exceptions: anti-drones (C10.49), poor crews (G21.127), outstanding crews (G21.227), small target modifiers (E1.71).
(C10.411) As with most other forms of ECM, this can (possibly) be offset by ECCM. This can include ECCM generated by the ship performing Erratic Maneuvers.
(C10.412) The four points of ECM count as a "natural source" (D6.3143), not within the self-generated or received-from-lending limits.
(C10.413) This ECM is applied to all weapons fired at the unit using EM, and to seeking weapons which hit the unit using EM.
(C10.414) This ECM is ALSO applied to direct-fire weapons fired BY the unit using EM. (The unit's own weapons are affected because of the violence of the maneuvers and because the EM must be totally random and cannot be accurately predicted even by the unit using it.)
(C10.415) Using EM will negate the effects of passive fire control (D19.25) and prevent its use. If the fire control is not active, it would be considered "inactive" (D6.614) rather than "passive." Low-Powered (D6.7) and Disrupted (D6.68) fire control, and special fire control systems such as DERFACS (E3.62) and UIMs (D6.5) are not affected unless specifically noted so in their rules, but none of these are immune to the penalties of (C10.413) and/or (C10.414).

(C10.42) ELECTRONIC WARFARE: EM is defined in terms of electronic warfare (D6.3). This system is still used even if the players are using the standard electronic warfare rules (D6.3); EM is considered a "natural source" (D6.3143). Simply use the four points of ECM to provide a +2 die roll shift (E1.8); assume that there is no other source of ECM and no ECCM. Note, however, that certain terrain features can also produce ECM points that could, in some circumstances, be added to the points from EM.

(C10.43) UNAFFECTED ITEMS: EM does not reduce the effects of explosions (D5.0), nova suns (P12.0), monsters (SM0.0), pulsars (P5.31), or anything else that ignores EW.

(C10.44) UNAFFECTED MANEUVERS: EM does not affect acceleration, deceleration, Tactical Maneuvers, or the side-slip mode. See (C10.55) for affected maneuvers.

(C10.45) ASTEROIDS: A ship using EM that enters an asteroid (P3.222) or ring (P2.223) hex uses its effective speed (C2.45), which includes the cost of Erratic Maneuvers (C2.43). Clearing paths (P3.254) and/or following another unit (P3.232) are not possible while conducting EM. See (P13.2) for dust clouds.

Shuttles using EM use the next higher speed column (P3.222). This is irrespective of Ace status, however green pilots will add two, equal to their cost in movement to perform the maneuver.

Note: Rule (P3.222) has always been unclear and the 1999 edition is no better. As above, *ships* (including PFs) add the cost of EM to their speed while *shuttles* (including fighters) use the next higher column.

(C10.46) MINES: Units entering a mine hex use their effective speed, which includes the cost of Erratic Maneuvers. See (C10.18) for the reduced cost of EM for a Legendary Navigator.
(C10.461) A non-nimble ship using EM will always trigger a mine (assuming other requirements, such as range and the mine's acceptable targets, are met) if its speed is greater than zero (because the six points of EM movement energy are added to speed for this purpose). This will happen at the appropriate step in the Sequence of Play during any impulse in which the unit is using EM.
(C10.462) Nimble ships using EM add the cost of EM (in hexes, usually three) to their practical speed (i.e., use their effective speed) for mine die rolls.
(C10.463) Shuttles and fighters performing EM add their one movement point cost of EM to their speed. This is irrespective of Ace status, however green pilots will add two, equal to their cost in movement to perform the maneuver.
(C10.464) The effects of (M2.45) are cumulative.

(C10.47) MOONS: A unit using EM must add one to the die roll when trying to avoid a small moon (P2.231). This is cumulative with (C11.29); i.e., the two cancel each other.

(C10.48) SMALL TARGETS: The effects of firing at small targets at long range (E1.7) are NOT cumulative with EM effects of that target. If both are available, the EM effects are used and the (E1.7) effects are not used. Any EM penalty of a unit firing at a small target would be in addition to the benefits accruing to the target for its status (EM or small target, not both).

(C10.49) ANTI-DRONES: ADDs (E5.15) fired by a unit using EM are penalized by a +1 shift (E1.8).

(C10.5) RESTRICTIONS ON UNITS USING EM

A unit using EM is under the following restrictions.

(C10.51) ACTIONS: Certain actions are prohibited to units using EM.
(C10.511) A unit using EM cannot launch drones, shuttles, fighters, probes (for information or as weapons), PFs, or plasma torpedoes. (Plasma bolts are direct-fire weapons and can be used while under EM at the standard EM penalties.)
(C10.512) A unit using EM cannot guide seeking weapons.
(C10.513) A unit using EM cannot lay or reinforce web or function as a web anchor.
(C10.514) A unit using EM cannot detect, lay, or sweep a mine. It can detect a minefield under (M7.11).
(C10.515) A unit using EM cannot launch or recover satellite ships.
(C10.516) A fighter using EM can use chaff (D11.0). See (J6.23) for special abilities of ace pilots.

(C10.52) SYSTEMS: Units under EM cannot use some systems; others function at a degraded capacity.
(C10.521) A unit using EM cannot operate:
- scout systems (G24.16)
- transporters (G8.17)
- web generators (G10.0)
- stasis field generators (G16.31)
- maulers (E8.224)
- labs (G4.12) (G4.21) The use of labs for EDR is allowed by (D14.0).
- ESGs (G23.313) and (G23.314)
- tractor beams (G7.0)
- passive fire control (C10.415)
- web casters for normal web (E12.215)

(C10.522) A unit using EM cannot lend EW points. A unit *can* receive lent EW while performing EM.
(C10.523) An MRS shuttle (J8.42), SWAC (J9.13), or EW fighter (R1.F7) using EM cannot operate its electronic warfare (scout) capabilities. They can use active fire control.
(C10.524) The ability to gather tactical intelligence is degraded; see (D17.224).
(C10.525) A ship *can* use negative tractor energy (G7.35) while performing EM, and this use is not degraded in any way.

(C10.53) DOCKING: A unit using EM cannot dock or undock with another unit, and no other unit can dock or undock or land aboard it. This includes shuttles, fighters, and PFs. Being held in a tractor cancels EM (G7.92); when docking to a ship (as opposed to an FRD), more power is required (C13.923).

A unit using EM cannot undergo ship separation (G12.0). Note that a ship held in a tractor is not technically erratic, and such a ship could use separation. Also, a ship could undergo separation while using EM as an involuntary result of Catastrophic Damage (D21.43).

A unit using EM cannot attach or detach pods (G14.0).

A unit using EM cannot lay mines (M2.11).

A unit using EM cannot launch or recover satellite ships (G19.4).

(C10.54) WILD WEASEL: If a ship has a WW functioning, using EM will void the WW if the ship's EM movement cost causes its maneuver rate (C2.423) to exceed the limit in (J3.131). For example, a nimble ship (or a computer-controlled ship or a ship with a legendary navigator) could use EM at a speed of one or Zero

because the lower EM cost added to these low speeds would not exceed the limit. A ship cannot launch a WW while using EM (C10.51). A ship able to benefit from a wild weasel while under EM would be protected by the ECM of both its EM (C10.41) and the WW (J3.23).

(C10.55) MANEUVER: A ship using EM has its Turn Mode increased by one (four hexes to five hexes); the Turn Category (e.g., C) is not increased. One is added to all HET die rolls by ships using EM. Ships in orbit cannot use EM (P8.45).

Nimble units are exempt from the first two effects of this rule (Turn Mode; HET), but cannot use EM while in orbit.

See (C10.44) for unaffected maneuvers.

(C10.6) EXAMPLE OF ERRATIC MANEUVERS

A frigate is closing in on its target at a speed of twelve. It announces on Impulse #32 that it is continuing EM into the next turn.

During that (next) turn, it moves six hexes (during the first sixteen impulses) toward the target.

At the start of the seventeenth impulse, the owning player announces that it will drop EM at the end of that impulse. Note that this announcement may be made during an impulse in which the frigate is not scheduled to move. At the end of Impulse #17, the effects of EM are no longer in force. The frigate has presumably used EM to improve its chances of survival until it reaches the point where it will launch its weapons. The frigate must now drop EM in order to effectively use its weapons.

After firing/launching its weapons on Impulse #18, the frigate would like to return to EM to improve the odds of escaping. However, even though he paid for a full turn's EM, he cannot resume EM until the next turn when he must pay for it again. He may announce that he is resuming Erratic Maneuvers on Impulse #32 of the current turn, in fact must do so if he wants to be under Erratic Maneuvers on Impulse #1 of the following turn.

(C11.0) NIMBLE UNITS (Advanced Rule)

Certain units are designated as being "nimble." These ships have certain advantages in the game. The terms "nimble," "very nimble," and "extremely nimble" have been used in various editions of the rules and are interchangeable.

(C11.1) LIST OF NIMBLE UNITS

Nimble ships are listed in Annex #7F of *Advanced Missions* and in the ship descriptions and on the SSDs of nimble ships. In some cases, future products might add a nimble ship without updating Annex #7F, in which case the ship will be described as nimble in its description and/or on its SSD. A ship (or other unit) is nimble if it is listed in Annex #7F, or in its description, or on its SSD. It need not be so described all three places. In *Module G3* Annex #7F has been reduced to listing just a few individual units. Nimble units are identified as such by an "N" in their notes column on the Master Ship Chart, Annex #3, or Master Fast Patrol Ship Chart, Annex #3B.

NOTE: All shuttlecraft and fighters (including those on seeking courses) are nimble unless noted otherwise in the rules.

(C11.2) BENEFITS OF NIMBLE UNITS

Nimble units have certain benefits specified in the rules. These include:

(C11.21) ASTEROIDS: Subtract "1" from the die roll for asteroid damage (P3.221) and ring damage (P2.223). Nimble units cannot lead non-nimble units through asteroids (P3.235) unless they have lost (C11.31) or forgo their nimble status (C11.35).

(C11.22) HETs: Make two High Energy Turns with reduced chance of breakdown, rather than one (C6.521), except PFs (K1.23) and Interceptors (K3.23). Fighters are treated under (J4.12), not (C11.22). Shuttles, other than fighters, cannot perform HETs (C6.4).

(C11.23) ERRATIC MANEUVERS: Reduce cost of using Erratic Maneuvers (C10.12) for nimble ships. Note that seeking shuttles and WWs cannot use EM (C10.13).

(C11.24) WW UNDER EM: A nimble ship can begin using EM without voiding a previously-launched WW if it is at low speed; see (C10.54), (C2.42), and (C10.12).

(C11.25) QUICK REVERSE: Add one to the quick-reverse die roll (C3.61).

(C11.26) COMBAT: Nimble units are more difficult for enemy units to hit (E1.7).

(C11.27) PRECEDENCE: Nimble units have a more advantageous movement order in (C1.313).

(C11.28) SPEED CHANGES: Nimble ships (not shuttles) can change speed within six impulses rather than eight (C12.31). The ships cannot, however, change speed more than four times per turn. Fighters and shuttles are limited to eight impulses; see (C12.34).

(C11.29) SMALL MOON: Subtract one from the die roll to avoid a small moon (P2.231). This is cumulative with (C10.47); i.e., the two cancel each other.

(C11.3) LOSING NIMBLE BENEFITS

(C11.31) LOSING CONDITIONS: A nimble unit loses these benefits:

- if it is crippled (S2.4) for ships, at the point it is crippled
- if it suffers a breakdown (C6.544)
- if it drops its warp engines (G12.65)

Dropping warp booster packs [(J5.41) (K1.624)] does not cancel nimble status.

A nimble unit does not have this status while towing with or towed by a tow bar (K1.25).

(C11.32) TRACTOR BEAMS: A nimble unit held in a tractor beam does not lose the benefits of being nimble, although the effects of the tractor (and range) will nullify some elements of these benefits.

(C11.33) CREW STATUS: A nimble ship with a poor crew (G21.123) does not receive any benefits of nimble status. A nimble ship with an outstanding crew (G21.223) does not lose nimble status if the ship is crippled.

(C11.34) DOCKING: Nimble ships lose that status when docked (C13.0) to a base or to another ship.

(C11.35) FORGOING NIMBLE STATUS: A manned nimble unit can voluntarily forgo its nimble status by announcing it is doing so in the Announce Movement Changes Step of the Final Movement Actions Stage (6A4) of any impulse. The unit is considered to not be nimble from that point in the Sequence of Play. The nimble unit can resume nimble status on any subsequent Announce Movement Changes Step of the Final Movement Actions Stage (6A4) of any impulse at least six impulses after forgoing its nimble status. It cannot again forego its nimble status for six impulses after resuming it. For example, a manned nimble-unit forgo its nimble status in order to lead a non-nimble unit through an asteroid field.

(C12.0) CHANGING SPEED IN MID-TURN *(Commander's Level Rule)*

This rule provides a means of changing a ship's speed during the turn. It is one of the most complex and most difficult to master. However, it is also one of the most rewarding, tactically, of all rules sections, and a player who knows this rule and can apply it in combat will generally defeat one who cannot.

Speed is life in *Star Fleet Battles,* and the biggest problem is that there is never enough of it. By using mid-turn speed changes, you can move at high speed during part of the turn at the cost of moving at a slower speed during other parts. This allows you to concentrate your high-speed burst during the most critical instant, to gain more effective speed for the same energy, to improve maneuverability (by temporarily reducing speed to improve your Turn Mode), and to confuse your opponent as to how much energy you are using to move, and thereby how much energy is available for other uses.

This rule (C12.0) is listed in the *Tactics Manual* as one of two rules which will ensure victory if you master them and your opponent does not. The other is (B3.2). A third such rule is (H7.0).

Ships (including PFs and INTs but not bases) and shuttles (including fighters and heavy shuttles) may use this procedure. Seeking weapons, including seeking shuttles, may not. ECM drones and probe drones, which are seeking weapons, use a different form of speed changes; see (FD9.11) and (FD6.2).

(C12.1) PROCEDURE

(C12.10) PLOTTING: The player designates, during the Energy Allocation Phase, that his ship will be changing speed and creates a Legal Speed Plot (C12.12). The player must then calculate the energy cost for this movement and allocate it. The player must designate the number of impulses that the unit will move at a given speed; then (by consulting the Impulse Chart) designate the number of impulses that the unit will move at a different speed.

The ship will then begin the turn moving at a given speed. At the point indicated in the speed plot, the ship begins moving at the new speed. The speed change (and the new speed) is announced one impulse before it takes effect; see (C12.36). The controller (C1.44) will have to adjust his charts at this point. Obviously, he cannot be told in advance of the planned changes or surprise would be lost.

EXAMPLE: The player wants to move at a speed of eight during the early part of the turn so that he will have a firing opportunity in the first few impulses. Thereafter, he wants to move at eighteen hexes per turn to evade retaliation. He indicates on his plot that he will move at the lower speed until Impulse #9 (at which time he will have moved two hexes). During Impulse #9, he announces a change to Speed 18. Beginning with Impulse #10, he will move at eighteen hexes per turn, at which point there are thirteen impulses/hexes of Speed 18 movement remaining. Thus, during the entire turn he will cover fifteen (2+13) hexes and must allocate sufficient energy for this movement.

(C12.11) EXCEPTIONS TO OTHER RULES: Note that mid-turn speed changes create many technical exceptions to other movement rules, due to the effect of dividing a turn into several smaller time periods. These exceptions are noted in each case; do not assume an exception where none is noted. See (C3.44) for Turn Modes.

(C12.12) LEGAL SPEED PLOT: During Energy Allocation, the player must designate all speed changes and note the speed that the ship will be traveling during each impulse of the turn. (Forward and reverse movement is also noted in this plot.) This is known as the "speed plot" and is required even if using "free movement" (C1.31). Under free movement, the direction of movement (on the map, forward and reverse must always be plotted) is up to the player (within the applicable rules), but the speed at which the ship travels is plotted during Energy Allocation subject to certain outside factors (which cannot legally be plotted or anticipated) including:

- Non-plotted accelerations under (C12.24).
- Energy Balance Due to Damage (D22.0).
- Emergency Deceleration (C8.0).
- Towing by tractor beam (G7.32) or (G7.36).
- Black Hole (P4.1) and Nebula (P6.5).
- Breakdown (C6.5).

Of course, if the ship is destroyed, the question of its speed becomes moot.

An example of a legal speed plot would be: Impulses #1-16 = Speed 9; Impulses #17-26 = Speed 19; Impulses #27-32 = Speed 14.

(C12.13) SEPARATE FROM OTHER SPEED CHANGES: Except for determining acceleration limits between turns (C12.33), the rules and restrictions for changing speed in mid-turn put no limits on normal speed changes performed between turns.

(C12.131) A ship using changing speed in mid-turn may always change its speed under the normal procedures at the beginning of the turn [(C2.2), plotted during the Energy Allocation Phase and announced during the Speed Determination Phase].

(C12.132) Speed changes caused by other factors, such as emergency deceleration (C8.0), towing by tractor beam [(G7.32), (G7.36)], energy balance due to damage (D22.0), breakdown (C6.5), webs (G10.0), and terrain features, such as black holes (P4.1) and nebulae (P6.5), are not affected by or limited by this section (C12.0). Emergency deceleration (C8.0) may affect plotted speed changes and non-plotted accelerations (C12.35).

(C12.2) ENERGY COST

(C12.21) TOTAL COST: The energy cost of moving for that turn is equal to the total number of hexes moved (as adjusted by the movement cost of the unit). For example, a ship moving at Speed 28 could decelerate to Speed 27 on Impulse #9, then accelerate back to 28 on Impulse #18, resulting in total movement of 29 hexes (and all 29 must be paid for within the requirements of the rules).

A ship cannot achieve Speed 31 through mid-turn speed changes (i.e., move 31 hexes by a combination of movement at Speeds 30 and 29) unless one point of movement, either allocated or from reserve (C12.25), is from impulse engines; see (C2.112).

A ship cannot exceed its acceleration limits (C2.21) by speed changes including unplotted changes with reserve power.

EXAMPLE: If a ship is limited to a speed of no more than twenty during the previous turn, it can legally move 21 hexes by mixing movement at Speeds 20 and 19, assuming it paid for all 21 hexes.

(C12.22) PLOT REQUIRED: Due to the necessity of planning for Energy Allocation, changes in speed must be plotted in advance, even if formal movement plotting is not in use. Alternatively, reserve warp power could be used to accelerate (but not to decelerate) the ship; see (C12.24). Note (C3.53) when reversing direction during the turn.

(C12.23) DAMAGE: If Energy Balance Due to Damage (D22.0) is in use, a player can cancel or reduce future accelerations to fulfill energy balance requirements. Cancellations must be announced.

(C12.24) NON-PLOTTED ACCELERATION: In the case of non-plotted acceleration paid for by reserve warp power under plotting level A (C1.33), the power allocated must generate a number of movement points equal to double the number of hexes of movement gained, but not more than if the new higher speed was continued for the entire remainder of the turn from the point of the change, accounting for the difference between that new higher speed and the original speed plot, and not less than one hex of movement energy.

NOTE: Non-plotted accelerations are a somewhat complex concept, and some inexperienced players may have difficulty with it until they are more familiar with (C12.0) as a whole. While (C12.24) is a part of (C12.0), players could, by mutual consent, agree before a scenario begins not to use it. Once they become aware of the tactical possibilities, most players want to use unplotted accelerations.

EXAMPLES: A ship (with a movement cost of one) is moving at Speed 10 during the first half of the turn. If the ship plotted (during Energy Allocation) an increase to Speed 20 for the second half of the turn, the ship would need a total of fifteen movement points because it was moving fifteen hexes.

However, if the ship did not have an acceleration plotted and makes an unplotted speed increase on Impulse #17, it gains five hexes of movement. While the penalty is double the gain (ten, in this case) the "speed cap rule" says that you never pay more than if the increased cost had been for the entire remaining part of the turn, which it was, meaning that the ship pays for only the five hexes it

gained (in the case of a movement cost one ship, five points of reserve warp power).

If the ship (having no plotted speed changes) moving at Speed 10 had made this unplotted acceleration to Speed 20 on Impulse #23 and continued it for the entire remainder of the turn (gaining three hexes of movement), the cost would be three, and if the ship made the speed change on Impulse #11 (gaining seven hexes of movement) the cost would be seven.

If the ship had a plotted increase to Speed 20 on Impulse #23, and made an unplotted increase to Speed 20 on Impulse #16, it would gain two movement points (and pay the cost of four movement points).

If a ship (movement cost one, plotted to move Speed 10 the entire turn) wanted to jump to Speed 20 for the period of Impulse #9 through Impulse #16, it would gain two movement points and pay for four. It does not benefit from the speed cap clause because if it had continued the speed increase for the last 24 impulses of the turn, it would have gained seven movement points and seven is more than four. If the ship had made its increase to Speed 20 for the period of Impulse #9 through Impulse #24, it would gain five hexes and double five is ten, but the speed cap rule would make these five hexes cost only eight points. Indeed, unless there is some tactical reason to do otherwise, the ship might as well have stayed at Speed 20 for the remainder of the turn.

In all above cases, the extra energy for "penalty hexes of movement" are lost. The ship is at Speed 20 during those impulses for purposes of later acceleration; see (C12.33).

In a different and more complicated example, an Andromedan ship (*Module C2*) has plotted to move at Speed 24 through the first eight impulses (six movement points), then drop to Speed 15 for the remainder of the turn (twelve more movement points for a total of eighteen). Instead of this plot, however, the Andromedan uses reserve power to increase from the original plot and move at Speed 30 for Impulses #4 (announce on Impulse #3) through Impulse #24 (inclusive). This increase gains one movement point during impulses #4 through #8, and seven movement points during Impulses #9 through #24. These eight extra movement points would cost eight points normally, but will cost sixteen due to the double cost of unplotted accelerations. However, this increased cost cannot be "more than if the increase had applied to the entire remainder of turn". Since 30 is twelve more than the original eighteen points of paid movement, the maximum cost of the increase of eight movement points is twelve. (Andromedans have huge amounts of reserve power; if you have not yet encountered one, consider this fair warning that they are amazingly mean and nasty things to fight.)

(C12.241) This penalty does not apply in the case of unplotted High Energy Turns, Erratic Maneuvering, or Tactical Maneuvers.

(C12.242) Non-plotted accelerations are under the limitations of (C12.31)-(C12.33), both as to the number and magnitude of speed changes and the delay between changes. Unplotted accelerations may not be within eight impulses of each other. This requirement is not canceled by (C12.314), however see (C11.28) for nimble ships. This means that past and future plotted speed changes may prevent an unplotted acceleration due to the delay required. If a ship has already plotted the maximum number of speed changes, it cannot make unplotted changes at all. There is a partial exception in that an unplotted acceleration may be made if it increases the speed of the ship to the speed specified in the next subsequent plotted speed change (regardless of how long it is until that change is made), assuming that the minimum delay has elapsed since the previous speed change and the acceleration is within the ship's acceleration limits (C12.33).

EXAMPLES: A given non-nimble ship has started at Speed 20 with a plotted deceleration to Speed 16 on Impulse #9 and a plotted acceleration to Speed 20 on Impulse #22. The ship could use reserve power on Impulse #17 (or later) to accelerate to Speed 20, in effect advancing rather than canceling the plotted acceleration on Impulse #22. This preserves the minimum delay between the two speed changes; the ship could not change to any other speed because the minimum interval to the next speed change could not be provided.

Another possibility would be to use an unplotted acceleration to Speed 20 on Impulse #9, providing only enough power to maintain Speed 20 until Impulse #14 (or earlier), in effect delaying the deceleration.

Yet another possibility would be to use an unplotted acceleration on Impulse #9 to a speed higher than twenty (22 in this case). However, this higher speed must be maintained for the minimum period (eight impulses for non-nimble ships), and its end (which will be a speed change impulse) must allow the minimum interval before the next plotted acceleration point or must coincide with that point (or be after that point, in which case it must allow the minimum interval to the *next* speed change impulse). In our example, with only thirteen impulses between the two points, there would be little choice but to pay for an acceleration from sixteen to 22 for the entire period of Impulses #9 through #21.

Alternatively, the ship might (if it had enough reserve power) be able to maintain a speed of twenty by paying for an unplotted acceleration to Speed 20 on Impulse #9 covering the entire period to Impulse #21. In this case, the ship would be considered to have not changed speed at all during this period and could use reserve power to make yet another unplotted acceleration without respect to the two original (and now nonexistent) speed change points.

(C12.243) Non-plotted accelerations may be made on the same impulse as plotted speed changes to increase or reduce their effect.

EXAMPLE: In the above examples, the ship could have expended reserve power on Impulse #9 to keep the ship moving at Speed 20 throughout the turn and/or could have expended reserve power on Impulse #25 to produce a speed greater than twenty, assuming this is within the limits of other rules.

(C12.244) Non-plotted accelerations can be used to accelerate for a portion of the remaining turn rather than for the entire turn; the minimum period is specified in (C12.312) and is eight impulses for most ships, six impulses for nimble ships (C11.28). Such a partial turn acceleration results in an "unplotted deceleration" back down to the previously plotted speed, but is legal due to the limited nature of the partial turn acceleration. Note that such partial turn accelerations and decelerations must adhere to the speed change limits, a ship moving Speed 15 with a plotted deceleration to Speed 10 could not do an unplotted acceleration to Speed 22 and then drop directly to Speed 10. It could accelerate to Speed 22 and then, through the use of another unplotted acceleration modify its speed plot to drop down to Speed 11 (or some faster speed). None of this can be done if the ship does not have sufficient reserve power to modify its speed plot to a legal one.

EXAMPLE: A non-nimble ship at a speed of ten accelerates to Speed 20 on Impulse #16, paying six points of power to gain three hexes of movement through Impulse #24, in effect plotting a deceleration to Speed 10 on Impulse #25. Note that both events (Impulse #16 and #25) must be within the limits of (C12.31) with respect to plotted speed changes (C12.242).

(C12.25) IMPULSE ACCELERATION: Reserve impulse power (H7.47) can be used for non-plotted accelerations, but only if the ship is not already using impulse power for movement (C2.111).

(C12.251) Reserve impulse power can only increase the ship's speed by one, regardless of the point in the turn at which it is applied.

EXAMPLE: A ship (move cost = 1) moving at Speed 9 could, on Impulse #27, announce a speed change to Speed 12 (providing no extra movement but gaining advantages). This would require (C12.24) a minimum of one hex of movement energy, but since the ship is gaining three points of speed, it cannot use reserve impulse for this purpose; reserve warp power would be required. Reserve impulse power could only accelerate the ship to Speed 10 in this case.

(C12.252) Warp and impulse power can be combined in paying for an unplotted acceleration; they are calculated separately and then added.

EXAMPLE: A ship with a movement cost of one is moving at Speed 8 on Impulse #26. A nearby enemy unit has performed a maneuver which has created a tactical situation which the first ship wishes to exploit. The ship has three batteries, two of which have reserve warp energy and one of which has reserve impulse energy. Referring to the Impulse Chart, the captain sees that he can accelerate to a maximum speed of seventeen, gaining two hexes of movement. The acceleration to Speed 16 is made by using the two points of reserve warp to gain one hex of movement (and eight points of speed), which is the maximum speed the ship can attain with this power. The reserve impulse power is then added to shift to the next column (Speed 17) and, in this case, gain a second hex of movement.

(C12.3) RESTRICTIONS

(C12.31) NUMBER OF CHANGES: A player could change speed several times and even reverse direction (C3.5), assuming a willingness to tolerate the mathematics and available power.
(C12.311) In no case may a ship change speed more than four times during a given turn.
(C12.312) No mid-turn change in speed may be made within 1/4 turn (eight impulses) of another mid-turn change in speed. Exception: nimble ships (C11.28).
(C12.313) No mid-turn speed change may be made before Impulse #4 (1/8 turn) or after Impulse #28 (7/8 turn) of a given turn. (Because changes are announced on the previous impulse, the earliest announcement would be on Impulse #3 and the latest on Impulse #27.)
(C12.314) Only mid-turn speed changes which change (or will change) the ship's actual speed count against these limits. The use of non-plotted accelerations may eliminate a speed change by extending an existing speed or superseding a pre-plotted speed change; see (C12.242) and (C12.243). Balancing energy due to damage (D22.4) may cancel a speed change (C12.23). Speed changes caused by other factors, such as changing speed between turns, emergency deceleration (C8.0), towing by tractor beam [(G7.32), (G7.36)], etc., do not count against these limits; see (C12.13).

NOTE: Earlier editions of *SFB* had an "alternative" system for speed changes over a turn break; this was deleted because it totally changed the balance of the game when used and unbalanced most of the ships and scenarios.

(C12.32) DECELERATION: The ship cannot decelerate by more than 1/2 of its current speed in any single speed change. If the ship is moving at a speed less than eight, it can decelerate by four movement points. When determining allowable deceleration, round fractions up. A ship moving at Speed 11 could slow to Speed 5. This restriction does not apply to speed changes taking place from one turn to the next (i.e., during Energy Allocation).

Speed changes to reduce speed must always be plotted during Energy Allocation (C12.12). They can never be unplotted.

EXAMPLE: A ship wants to move at a high speed during the first part of the turn, then use speed changes to stop. If it were at Speed 31 during the first three impulses, it could…

Impulse #4: decelerate to Speed 15 (i.e., by half, rounding the fractions of the change up, a reduction of 15.5 is rounded up to 16, and 31 – 16 = 15).

Impulse #12: decelerate to Speed 7 (15 ÷ 2 = 7.5 rounded up to 8; 15 – 8 = 7).

Impulse #20: decelerate to Speed 3 (the rule allows deceleration by four, regardless of the calculation, although in this case the calculation would also allow a deceleration of four).

Impulse #28: decelerate to Speed Zero (because deceleration by four is allowed instead of deceleration by half). The ship could not "decelerate" to -1 (i.e., one in reverse) because that would be an "acceleration" from Zero to one in reverse. (Of course, stopping in the presence of an experienced opponent is generally called the "kill me" tactic.)

Impulse #28: As an alternative, the ship could have paid (by original allocation) the braking cost (C3.52) on Impulse #28 and accelerated into reverse at a speed up to ten.

It would, in most cases, make more sense to simply move at a lower speed from the start of the turn. Even at a speed of 22, the ship would have moved during the same impulses (#2 and #3) as a ship moving at Speed 31. If the ship had started the turn at Speed 19 or less, it could have reached Speed Zero on Impulse #20 and it could accelerate in reverse on Impulse #28 without paying any braking cost. This example does, however, show how hard it is to stop except at a turn break.

(C12.33) ADJUSTMENT LIMITS: The total adjustment in speed, as well as each partial adjustment, must be within the limits for acceleration and deceleration. (I.e., most ships can accelerate by double their current speed or by ten and can decelerate by half. Some unit types have different acceleration limits.) The lowest speed during the previous 32 impulses determines the maximum speed to which the ship can accelerate, assuming there are no other restrictions. This limit on acceleration applies at all times, including when determining acceleration limits for normal speed changes between turns. Exception: positron flywheel (C9.0).

EXAMPLE: A unit was moving at a speed of twelve on the previous turn and uses mid-turn speed changes to slow down to Speed 8 and then speed up to eighteen. The deceleration from Speed 12 to Speed 8, the acceleration from Speed 8 to Speed 18, and the acceleration from Speed 12 to Speed 18 must all be within the limits of the given unit and rules. The maximum speed would be Speed 18 for the 32 impulses after the ship moved at a speed of eight.

(C12.34) SHUTTLES: Fighters and shuttles can use speed changes to vary their speed within (C12.33) and other limits. See (J1.22) for speed change limits, which are 1/2 of the maximum speed (the "or by 10" rule used by ships does not apply to shuttles). Unmanned shuttles, including wild weasels, cannot make any speed changes, plotted or unplotted. There are two exceptions: an uncrippled unmanned shuttle becomes (after launch) a crippled unmanned shuttle (J1.331), and Cloaked Decoys (G27.32).
(C12.341) Fighters and shuttles cannot exceed their maximum speed by means of the changing speed rules. A fighter with a maximum speed of sixteen, for example, could move at a speed of twelve during the first half of the turn (during which it would have only six hexes of movement), but it could not then move at a speed of twenty during the last half of the turn, even though the total movement is sixteen hexes, because the fighter cannot exceed a speed of sixteen. Under (J1.211), however, a fighter or shuttle could (by combining its maximum speed with the next lower speed on carefully selected impulses) actually move one more hex during a given turn than it is technically allowed to. For example, a fighter with a maximum speed of twelve could, by moving at Speed 11 during Impulses #9 through #18, actually travel thirteen hexes during the turn.
(C12.342) Fighters, but not non-fighter shuttles, can make unplotted accelerations and decelerations (in their basic, non-boosted speed) at any time so long as no change is within eight impulses of the previous change and so long as no change is more than one-half of the maximum non-boosted speed of the fighter. [Note that booster packs can be turned on and off during the turn (J5.14) and will simply double (or cease to double) the current non-boosted speed.] Accelerations to perform a tractor-breaking maneuver (G7.55) can be made regardless of the time since the previous speed change, but restart the count for the number of impulses that must elapse before the next speed change. Note, however, that if the fighter cannot accelerate to maximum speed due to (J1.22) or (C12.33), it will be unable to break the tractor.
(C12.343) Non-fighter shuttles can make plotted speed changes, subject to the same restrictions as (C12.342). Non-Fighter Shuttles must plot mid-turn speed changes for the remainder of the turn they are launched on the impulse of launch (landing does not have to be plotted). MRS and SWAC shuttles are non-fighter shuttles for this purpose as they are for all purposes not specifically noted otherwise in the rules. Unmanned shuttles [seeking shuttles (FD1.8) and wild weasels (J3.11)] cannot make unplotted mid-turn speed changes, and cannot have speed changes plotted for them, but continue to move at their launch speed until destroyed, rendered inert, or crippled. Exception, Cloaked Decoys can have plotted speed changes (G27.31).

(C12.35) EMERGENCY DECELERATION: Speed changes in mid-turn interact with emergency deceleration (C8.0).
(C12.351) Speed changes before Emer Decel is declared or during the declaration period (C8.3) change the speed of the ship and result in more (or less) energy being transferred to the shields in (C8.11). The energy given to the shields is based on unexpended movement energy points and not the energy paid for those points, i.e., extra energy costs paid as a penalty under (C12.24) are not recovered.
(C12.352) Speed changes cannot be made during the post-deceleration period (C8.4), i.e., the sixteen impulses after stopping. All plotted speed changes are canceled by Emer Decel and used to calculate the unused movement energy.

Unplotted accelerations can be made during the same turn as the deceleration only after the post-deceleration period has expired and will require reserve power (C12.24).

If the post-deceleration period extends into the next turn, energy may be allocated for movement after that period (C8.412).

(C12.36) ANNOUNCEMENT: The intention to change speed (and the new speed) is announced during the Announce Movement Changes Step of the Final Movement Actions Stage (6A4) of the Impulse Procedure. Because this step comes after movement, it effectively creates a one-impulse delay between announcement and execution in the Voluntary Movement Stage (6A2), the unit is considered to be moving at the previous speed until the execution point. This announcement point is used for both plotted and unplotted changes. Should a player forget or fail to make the required announcement, a penalty is assessed, as follows:

(C12.361) An unplotted speed change would not be permitted at that time. (The fact that it was an unplotted change would have to be revealed, giving the enemy some information about your reserve power status.) The player could make a subsequent announcement and speed change within the rules. There is no penalty except lost opportunity.

(C12.362) A plotted acceleration discovered at the point it was to be made (i.e., failure to announce one impulse in advance) must be delayed one impulse if the opponent so chooses; subsequent changes are not affected. (The opponent might choose to allow/require the acceleration.) No energy is recovered for any lost movement points.

(C12.363) A plotted deceleration discovered at the point it was to be made must be delayed one impulse if the opponent so chooses; subsequent changes are not affected. (The opponent might choose to allow/require the deceleration.) No energy is expended for any gained movement.

(C12.364) A plotted but unmade speed change discovered after the point it was to be made will require a penalty (e.g., one or two destroyed boxes on the SSD of the offending unit, but not the last box of any given type) to the satisfaction of the opponent within the spirit of the rules, common sense, and fair play.

(C12.37) REVERSING DIRECTION: Ships (but not shuttles) can reverse direction during a turn through braking (C3.5). As an alternative to that method, a ship could switch from forward to reverse movement (or vice-versa) without paying a braking cost by plotting a speed change to Speed Zero (within the rules) followed (eight impulses later) by a speed change to some other speed (within the acceleration limits) in reverse.

NOTE: See (C11.28) in the case of nimble ships, which can accelerate after only six impulses. This creates a minor technical exception to many of the following rules.

(C12.371) The highest speed in the previous eight impulses is used to determine the braking cost. This cost is calculated using the value of the highest speed itself, not the number of hexes which were actually moved at that speed or the number of hexes moved in the last eight impulses.

EXAMPLES: If the ship changed speed to zero (as above) and then accelerated in reverse eight or more impulses later, there would be no braking cost. (Nimble units would need only six impulses.)

On the other hand, if the ship were at Speed 16 on Impulse #27, then changed to Speed 8 on Impulse #28, and then during Energy Allocation of the next turn wanted to reverse course, it would pay a braking cost of sixteen (the highest speed in the previous eight impulses) or it could use a quick reverse (C3.6).

Of course, the ship could plot Speed Zero on the first three (or more) impulses of that next turn and then accelerate in reverse after paying a braking cost of eight since the highest speed in the previous eight impulses was eight. It could not move at any speed greater than Zero in those first impulses or (given that the ship wanted to shift into reverse) it would have to change speed to Zero on Impulse #4, remain stopped for eight impulses, and then accelerate in reverse on Impulse #12, at which point it would pay no braking cost at all. Another possibility would be to plot Speed Zero for eight impulses, accelerating in reverse (no braking cost) on Impulse #9.

(C12.372) As all ships must have a legal speed plot (C12.12), this procedure for reversing direction would be plotted in advance. Exception: The ship could plot a speed of zero and accelerate with reserve power.

(C12.373) A ship could, of course, change to Speed Zero and then accelerate in the same direction. This might be done for some tactical purpose, perhaps to allow other ships to catch up with an advanced element.

(C12.374) Braking energy does not in itself slow the ship down. Braking energy cannot be used to reduce speed, but is only used to stabilize the ship for the switch to movement in the opposite direction. A ship traveling at Speed 16 could not use braking energy to reverse direction in one instant, but must legally slow to Speed 8 (say, for Impulses #4-#11), then to Speed 4 (Impulses #12-#19), then to Speed Zero (Impulse #20), then could pay four points of allocated braking energy (also Impulse #20) and begin reverse movement immediately (still on Impulse #20) OR it could remain at Speed Zero for eight impulses (#20-#27) and then move in reverse (on Impulse #28) without paying a braking cost. (In either case, it would be limited by the normal acceleration rules to Speed 10 in reverse, and could be further limited by available power.) Note that braking energy cannot be from reserve power because reversing direction must be plotted.

(C12.38) WARP RESTRICTION: A ship cannot, at any given point in time, use more warp engine power for movement than it had available at the start of the turn. This restriction is in addition to the basic restrictions on total movement points expended in (C2.112).

EXAMPLE: A ship (with 30 warp engine boxes, four impulse boxes, and a movement cost of one) cannot use a High Energy Turn or Erratic Maneuvering while moving at a speed of 31, even if the ship is plotted to move at a lower speed during a different part of the turn (expending fewer than 31 total movement points).

NOTE: This rule is based on the warp engine power of the ship at the start of the turn, not the power remaining at various points during the turn after damage is taken during the turn. Exception: See (D22.6), Energy Balance Due to Damage.

(C12.381) Some ships can generate more than 30 points of movement with warp engine power. Examples include most war cruisers (which have 24 warp engine boxes, and a movement cost of 2/3, and which can generate 36 warp movement points) and Orions. A war cruiser could generate 30 movement points with twenty points of warp engine power [obeying the (C2.112) limit], then use their other four points of warp engine power to provide energy for an HET (which requires 3.33 points) which could be used while the ship was moving at Speed 31.

(C12.382) Some ships have many impulse engines and could use these for Erratic Maneuvering; see rule (C10.112). This could allow a ship with only 30 warp engine movement points to perform EM while at Speed 31 by using impulse to provide EM power.

(C12.383) This rule covers movement-related expenditures. Warp engine energy used for non-movement purposes (e.g., photons) is considered as a separate function. For example, a Federation ship could move part of the turn at Speed 30 (and part at a lower speed) and still arm photon torpedoes.

EXAMPLE: A ship (movement cost one with thirty warp) is plotted to move Speed 14 for the first half of a turn with a speed change to 26 for the second half (19 warp + 1 impulse). It has filled its batteries with reserve warp, and has allocated for an HET. The ship can use the HET using the allocated warp power near the end of the turn (while going Speed 26). In this scenario, the ship is using 25 warp at the time of the HET in order to go Speed 26 and has five more reserve warp in batteries (for a total of thirty being used before counting the five warp used for the allocated HET). The ship can perform the HET because reserve warp is not really "in use" for this purpose (C12.383). It is only "in use" if it is currently being used for a movement purpose.

(C12.384) Ships cannot exceed their maximum speed as the result of a speed change, or at any other time for that matter. The only exception would be a very slow ship (freighter, FRD, Warbird) being towed by a much more powerful ship (G7.36).

Maximum speed is calculated as follows:

[Warp Power ÷ Movement Cost] + 1 (impulse power) = Max Speed (or Speed 31, whichever is lower).

(C12.385) Ships can (under some circumstances) exceed their maximum acceleration as a result of mid-turn speed changes. For example, a ship limited by acceleration to a speed of twenty could actually move 21 hexes by combining Speeds 20 and 19. All 21 hexes must of course be paid for.

(C12.386) For purposes of wild weasels (J3.0), a ship's Maneuver rate (C2.42) is adjusted at the point where the speed change takes effect in the Sequence of Play, i.e., the Voluntary Movement Stage (6A2). If the ship is moving at Speed 4, the announcement of the speed change will not void the weasel as its maneuver rate does not change at that point. If a ship is moving faster than Speed 4, a weasel launched on the impulse of the announcement of a speed change down to Speed 4 (or less) would be voided on launch (J3.403). If a

weasel is launched on the same impulse a speed change down to a valid speed to use it takes effect it functions normally.

(C12.39) DOCKING AND UNDOCKING: A unit may not perform changing speed in mid-turn on the turn in which it docks or undocks with a base (but not a ship); see (C13.16) and (C13.23).

(C13.0) DOCKING (Advanced Rule)

Some units have the capability to dock with other units. Within this rules section, it will be presumed that a "ship" is docking at a "base" even though it would be more correct to have a "unit" dock at a "base or FRD."

See (C13.9) for ships docking to ships.

Some units do not use these docking rules:

Shuttlecraft land by (J1.6), but can "dock" (internally in a base or FRD) or externally by these rules.

PFs dock to PFTs by (K2.62), but can "dock" (internally) by these rules or externally by (K2.31).

Andromedan satellite ships dock in hangars by (G19.4), but can also dock externally (or be docked to) as any ship can (C13.9).

(C13.1) PROCEDURE FOR DOCKING

(C13.11) PROCEDURE: To dock with a base, the ship must be in the same hex and moving at a practical speed (C2.412) of one or zero. When docking to an orbiting base, the ship will have to position itself in the hex that the base will enter by orbital movement. See (C13.16) for actions which are prohibited on the turn of docking.

(C13.111) This can be done in forward or reverse movement.

(C13.112) If moving at a speed of one (or zero), the ship will dock and will not leave the hex; it will not move on Impulse #32.

(C13.113) During the Final Activity Phase of that turn, the ship is considered to have completed docking with the base.

(C13.12) FACING: No specific facing is required to accomplish docking since this will be changed as part of the docking maneuver. See (C13.912) for restrictions on ships docking to ships.

(C13.13) ORIENTATION: While in the same hex with the base, the ship is presumed to be in a direction from the base equivalent to the point at which the ship will dock. For ships docking to ships, see (C13.915).

(C13.131) In the case of a base, the ship is presumed to be located in the direction of a module into (or onto) which the ship will dock.

(C13.132) In the case of an FRD, the ship is presumed to be directly behind the FRD if docking into the rear of the "tunnel" (C13.53) and directly in front of it if docking into the front of the tunnel.

(C13.133) The facing of the ship is not relevant.

If docking externally, the ship will keep the same facing; see (C13.713) and (C13.75). See (C13.67) for undocking.

If docking inside (or to the cradles of) an FRD, the ship will be turned to face the same direction as the FRD by the action of docking.

If docking inside a starbase docking module, the ship will be turned to match whatever docking module the ship has docked in by the action of docking.

See (C13.67) for undocking.

(C13.14) DOCKING POSITION: The docking position (docking module on a base or an entire FRD) must have at least one working tractor beam (with one point of power applied to it) in order to dock ships or hold them in the dock.

For ships docked to ships, see (C13.915).

See (G7.9) and (G29.21) regarding tractor restrictions prior to docking, (C13.766) after external docking is achieved.

(C13.141) The ship can provide a powered tractor beam as a substitute for a tractor beam on the base. A ship's tractor beam can only be used to hold itself docked, however, while a single tractor beam on an FRD or starbase docking module could hold any number of internally docked units (with a single point of power).

(C13.142) If the tractor beam fulfilling this role is destroyed (G7.34), another tractor beam in the same module (or FRD) can assume the duty. Energy would have to be applied to this tractor (reserve or previous allocation) as the energy assigned to the original tractor was lost with it.

(C13.143) If, at the start of a turn, no working tractor beams (with power) are in a given module, no unit can dock to that module and all units that are docked must undock (C13.2) immediately unless the ship can immediately substitute its own tractor beam under (C13.141).

(C13.144) The one tractor beam which is holding ships inside the dock can also be used (with the same single point of power) to dock other ships internally, but the same single tractor beam cannot be used for both internal and external docking. A ship docking by (C13.711) can dock to a base tractor beam that is being used for internal docking.

(C13.15) SHIELDS: The ship's shields are considered down during the entire last impulse of the turn on which internal docking takes place. Shields remain up for external docking (C13.7).

A ship docked internally (in a starbase) can raise its shields after docking is complete; see (C13.42). Remember that dropped shields must remain dropped for eight impulses (D3.51). Units in FRDs (C13.51) cannot raise their shields.

(C13.16) PROHIBITIONS: A ship that is docking cannot, on the turn that docking takes place, have used emergency deceleration (C8.28), Erratic Maneuvers (C10.53), quick-reverse (C3.6), changing speed in mid-turn (C12.39), or a High Energy Turn (C6.37). If it has done any of these things, it cannot dock.

(C13.17) PLOTTING: A player must plot his intention of docking during Energy Allocation and must announce it in the Speed Determination Phase. Docking can only be aborted if the unit to which the player's unit is docking has been destroyed or crippled during that turn or if the required tractor beam has been destroyed. Otherwise, the unit must complete the docking, including the dropping of its shields (C13.15).

(C13.18) NO POWER: A friendly ship (including a captured enemy ship under the control of the player) that is held in a tractor beam (by the unit it is docking to) can be docked without expending any of its own power. In this way, a ship without functioning engines can dock with a repair facility. See (G7.25).

(C13.19) MINELAYING: If a unit lays a mine and then docks before leaving the mine's detection zone, the mine accepts the larger unit as the laying unit and will not arm (M2.34) until the larger unit leaves the detection zone.

(C13.2) UNDOCKING

(C13.21) UNDOCKING: Ships undock during the Initial Activity Phase of the turn.

(C13.211) The fact that a ship will undock is announced in the Speed Determination Phase.

(C13.212) The ship could be held in a tractor beam (by the base) and could be rotated (G7.7) on the turn of undocking. This would require a separate tractor beam (from the same docking position or module) from the one beam used to hold other units in the dock (C13.14). The docking tractor could be used if no other units are docked.

(C13.22) TIME DELAY: A ship cannot undock on the turn after it docks unless required to do so by rules such as (C13.143), (C13.921), (C13.925), (D21.46+47), or (C13.43).

(C13.23) SPEED: On the turn of undocking, the ship is presumed to be at a speed of one (or zero) and will remain in the same hex as the base until it moves on the last impulse.

(C13.231) A ship cannot execute EM (C10.0), HET (C6.0), or Tactical Maneuvers (warp or impulse) (C5.0), or change speed in mid-turn (C12.39) on the turn of undocking (if otherwise eligible to do so).

(C13.232) The unit can undock at Speed Zero. (The ship uses its maneuvering thrusters, so the speed is not truly zero, but is so slow as to be zero in game terms). If moving at Speed Zero, the unit can make a zero energy turn (C5.13).

(C13.24) SHIELDS: The ship's shields must be down (D3.5) during the entire first impulse of the turn on which undocking (from an internal dock) takes place. They can be raised within the normal rules

(i.e., 1/4 turn after they were dropped; they can be dropped before undocking, and a ship inside an FRD can raise them on Impulse #2 of the undocking turn).

NOTE: Ships docked externally (C13.7) are not required to drop their shields while docking, docked, or undocking.

(C13.3) DOCKING CAPACITY

(C13.31) CAPACITY: Each unit that has the capability to dock other units internally has a limited capacity. This capacity is expressed in terms of "docking capacity points" or DCPs. Each ship docked inside requires a certain number of DCPs; an FRD or Starbase Docking Module cannot dock (internally) an additional unit if it does not have a sufficient number of DCPs remaining.

(C13.32) POINT CHART: The docking points of ships are shown on the Master Ship Chart. (Some other units are listed in Annex #7J.)

(C13.33) BASE CAPACITY: Starbases have a capacity of 26 in each of their six modules; exception Federation starbases after Y181 (R1.1A). FRDs have a capacity of fourteen. Should additional units capable of internal docking be added to the game later, their docking capacity will be in their description.

NOTE: Base stations, battle stations, and various other bases do not use the docking capacity system; they (as well as starbases) can dock one ship (of any size) externally to each of their tractor beams; see (C13.7). FRDs use docking cradles and can dock one ship in each (C13.55), and they can also use (C13.9) docking.

(C13.34) TUGS AND PODS: Tugs, pallets, and cargo packs do not count as additional points if attached to a ship or tug, unless noted in Annex #7J. The most notable exception is the Federation tug carrying two pods (not one double-weight pod). Other tugs with two pods do not increase in docking points because only on the Fed tug does the second pod make the ship longer.

(C13.4) RESTRICTIONS, CONDITIONS, AND CAPABILITIES APPLICABLE TO ALL TYPES OF DOCKING TO BASES

Ships docked in and to bases have certain capabilities and restrictions. Some are dependent on the specific type of base; these are listed below. The restrictions and capabilities listed here apply to all ships docked within these rules unless otherwise stated by the rules. See (F2.335) and (F2.336) when seeking weapons are targeted on docked units.

(C13.41) POWER: The ship and base can exchange power. Simply note on the Energy Allocation Form that one is sending power and the other is receiving it (B3.1).

NOTE: This applies only to friendly units. Enemy units are prohibited except as allowed by (D16.0). See (C13.47) for transfers of crew, cargo, etc. See (C13.952) for power transfers between docked ships. PFs cannot do this (C13.956).

(C13.411) The amount of power transferred cannot exceed the damage control rating of the giving ship. This does not include power used for repair systems (G17.0) working on the transferring ship.

(C13.412) When exchanged in this manner, warp power can be used for non-movement purposes specifically requiring warp energy.

(C13.413) Reserve power (H7.0) cannot be transferred between ships and the base they are docked to. Battery power can be allocated as normal generated power within the limits of (C13.411).

(C13.42) SHIELDS: The ship can operate its shields while docked and can perform several functions, such as receiving repair points (G17.0) and crew transfers (C13.47), in spite of the shields.

See (C13.62) for scoring damage on a ship inside a starbase.

Ships inside an FRD cannot raise shields (C13.51).

See (C13.15) when docking and (C13.24) when undocking.

(C13.43) DESTRUCTION: If the base to which (or in which) the ship is docked is destroyed, the ship is also considered destroyed.

EXCEPTION: The ship could attempt to escape by the catastrophic damage rules (D21.0). In such case, the player has the option of trying to have the ship escape intact or having units (shuttles, PFs, sections) escape from the ship as if it were being destroyed. In either case, once the decision is announced, it cannot be changed. If the ship escapes, crew units from the base may escape with it; see (D21.46) and (D21.47).

See (C13.942) for ships docked to ships.

(C13.44) NUMBER OF UNITS: Any number of ships could dock or undock on any given turn, subject only to the capacity of the base. Exception: (D21.47).

(C13.45) ENEMY SHIP: An enemy ship cannot be forced to dock internally at a base against its will (unless, of course, it has been captured). See (C13.714) for the procedure to force it to dock externally.

(C13.451) A ship and the station it is docked to (or in) cannot fire at each other.

(C13.452) A ship can dock at (but not in) an enemy base or FRD (using the ship's tractors).

(C13.453) External docking can be forced by the base against the will of the ship (or vice versa). Only a unit generating a tractor link can force docking. This requires a tractor auction, with the winner of the auction forcing (or disallowing) the docking. This would, of course, require rotating the ship to a range of zero. This can be done even if one unit is cloaked.

(C13.46) CLOAKS: Docking to or by a cloaked unit is governed by (G13.46).

(C13.47) TRANSFERS: Ships docked to bases can transfer various items to and from the base.

Ships docked to ships are covered by (C13.951) and (C13.961).

Power transfers are covered by (C13.41).

(C13.471) Crew units can be transferred between the ship and base at a rate of 32 crew units per turn (for internal docking) and sixteen crew units per turn (for external docking). This transfer can begin after the ship and base have remained docked for at least eight consecutive impulses including the impulse of transfer, and then proceeds at a rate of one crew unit per impulse (every second impulse for external docking) in the Marines Activity Stage (6B7). If units are transferred into a combat situation (and used in combat on that turn), the rate is half the above. Transfers of personnel into an unfriendly unit are defined in (C13.475).

(C13.472) Cargo can be transferred by (G25.23).

(C13.473) Shuttles cannot be directly transferred; they would have to launch from one unit and land on the other.

(C13.474) Transporters will function between the ship and a friendly base even if the shields are still active and even if fire control is not active.

(C13.475) Each ship can transfer crew units as in (C13.471).

(C13.4751) Crew units cannot be transferred until a "bridgehead" has been created on the other ship (unless the arriving units surrender immediately).

(C13.4752) To establish a "bridgehead," each ship assigns up to ten boarding parties during the Resolve Boarding Party Combat Step of the Final Activity Phase. These cannot include units used as guards or involved in other actions on that turn. The two forces then fight (D7.4); the force that scored more casualties may advance into the enemy ship/base and become the "bridgehead." Either force may declare that it is defending (in which case it cannot advance even if it scores more casualties); such a force is doubled in offensive capability. If both defend, there is no combat. A more detailed and accurate system is given in (D16.6).

(C13.48) RESTRICTIONS ON INTERNALLY DOCKED UNITS: While docked internally, a unit cannot perform any of the following functions. See (C13.76) for external docking. See (G7.9) and (G29.21) regarding tractor restrictions prior to docking.

(C13.481) An internally docked ship cannot arm or fire any weapon; see (C13.8).

(C13.4811) An internally-docked ship cannot launch (G5.0) probes (for any purpose), seeking weapons, or any type of seeking shuttle. Internally-docked ships can launch normal shuttles/PFs.

(C13.4812) An internally-docked ship cannot self-destruct (D5.0) but might explode (C13.66).

(C13.482) An internally-docked ship cannot use active fire control (D6.6), including low powered fire control (D6.7), which prevents

several other actions (D6.62). The fire control can begin activation (D6.633) upon undocking. Even without active fire control, the ship can use transporters and tractors to the base. An internally docked ship also cannot:

(C13.4821) Gain, hold, retain, or re acquire a lock-on (D6.11).
(C13.4822) Use labs (G4.0) to gain information or identify seeking weapons.
(C13.4823) Gather tactical intelligence (D17.0), nor can tactical intelligence be gathered on such a unit.
(C13.4824) Use or lend EW or gain any benefit from EW (D6.3).
(C13.4825) Use aegis (D13.0) for any purpose.
(C13.4826) Benefit from passive fire control (D19.0).

(C13.483) An internally docked ship cannot use energy for any movement purpose or expend movement points except to undock (C13.2).

(C13.4831) An internally-docked ship cannot double its engine output (G15.2).
(C13.4832) An internally-docked ship cannot separate ship sections (G12.0) [except as provided by (D21.0)] or drop its warp engines (G12.6).
(C13.4833) An internally-docked unit cannot HET (C6.0), use EM (C10.0), use emergency deceleration (C8.0), Tactical Maneuvers (C5.0), or take any other action requiring the expenditure of, or calculated in terms of, movement points.

(C13.484) An internally-docked ship cannot:

(C13.4841) Use tractor beams (G7.0) except to maintain docking.
(C13.4842) Use scout functions (G24.0).
(C13.4843) Lay, maintain, or reinforce web (G10.0).
(C13.4844) Use an SFG (G16.0) or ESG (G23.0).
(C13.4845) Lay, detect, or sweep mines (M0.0).
(C13.4846) Dissipate PA panel energy into space (D10.412).
(C13.4847) Benefit from being nimble (C11.34).

(C13.485) An internally-docked ship can cloak, but will gain no benefits from doing so except that it will be able to be fully cloaked when it undocks. See (G13.46).

(C13.49) OTHER: The conditions of (C13.95) or (C13.96) will apply to ships docked to bases except as provided differently in other sections of (C13.0).

(C13.5) DOCKING INSIDE FRDs

Units docked inside an FRD have the following additional restrictions and capabilities beyond those in (C13.4). For external docking with an FRD, see (C13.55) below. See (R1.10) for even more information.

(C13.51) RESTRICTIONS: Ships docked inside an FRD cannot operate their shields, weapons, or warp engines.
(C13.511) The warp engine restriction, which does not apply to docking to non-FRD units, is required by the fragile nature of the FRD. Other power-generating systems (APR, AWR, battery, impulse) can be used.
(C13.512) A repair freighter or pod cannot function if docked externally to or inside of an FRD except to repair the FRD itself; a base augmentation repair module could function in addition to the repair systems on an FRD for any unit docked in or to the FRD.

(C13.52) DAMAGE: Ships docked inside an FRD cannot be damaged by fire directed at the FRD and cannot be targeted separately. If the FRD is destroyed, see (C13.43). If a ship inside an FRD is destroyed (which is not possible within the present rules, but might be allowed in a special scenario rule or future expansion), it is treated as per (C13.66).

(C13.53) TUNNEL LAYOUT: FRDs are essentially a huge "tunnel" or "pipe." Ships can enter or leave from either end, but the order in which the ships are held inside the dock must be recorded. It cannot be changed (the ships cannot pass each other) and determines the order in which the ships can be undocked. See exceptions in (D21.47).

EXAMPLE: A Klingon FRD has one F5 docked inside. Later, a D5 cruiser docks from the rear. The record is then made that the FRD holds an F5 and a D5, and that the order from front to rear is "F5, D5." At this point, the F5 could undock from the front end and the D5 could undock from the rear. The F5 could not undock from the rear since the D5 is behind it. The FRD could hold one additional F5. This could be docked from the front or rear. If docked from the rear, the record reads "F5, D5, F5." Either F5 could undock from the end it is docked at, but the D5 could not undock unless one of the F5s also undocked.

(C13.54) ENEMY SHIPS cannot dock inside an FRD (unless they surrender); allied and captured ships can dock inside an FRD.

(C13.55) EXTERNAL DOCKING: Friendly ships can dock externally to an FRD for various purposes including providing additional power or towing; see (R1.10B).
(C13.551) Ships in this case are treated as in (C13.7), except that they do not dock to a tractor beam (although they must have one undestroyed tractor with power applied to hold themselves in place). A tractor from the FRD cannot be used.

(C13.5511) The docking ship is docked in a special cradle on the top (or bottom) of the FRD (one ship in each). It can begin transferring power on any turn in which it is docked (and is not docking or undocking) subject to the restrictions of the rules.
(C13.5512) A ship docked in this manner can be hit from any direction and has no blocked firing arcs, and both ships (top and bottom) are equidistant from (and not shielded from) any other effects (explosions, enemy fire, pulsars, etc.).
(C13.5513) The facing of the ship is changed to match that of the FRD by the action of docking (C13.133).
(C13.5514) If the FRD explodes, the ship takes the damage on any shield at the choice of the owning player.

(C13.552) Ships (including enemy ships) can dock externally to an FRD using the procedures of (C13.9), but cannot help move the FRD and would restrict the movement of the FRD.

(C13.56) MODULES: FRDs often have base augmentation modules [such as (R1.4), (R1.16), (R1.17), and (R1.32)]; these are treated as modules attached to any base. Fighter and PF modules might be provided for local defense; power and repair modules might be provided to enhance the FRD's capabilities.

(C13.57) FACING UPON UNDOCKING: A unit undocking from an FRD must face the same direction as the FRD (or the opposite, if it was in the FRD backwards). For example, this would require units facing forward but undocking from the rear entrance to move in reverse on the undocking turn (if they move at all).

(C13.6) DOCKING INSIDE STARBASES

Units docked inside the docking module of a starbase have the following additional restrictions and capabilities beyond those in (C13.4). The starbase has six "docking modules" which are operated independently of each other. For external docking, to starbases or to other bases, see (C13.7) and (R1.1) for more information.

(C13.61) WEAPONS: Ships docked inside a starbase cannot arm or fire their weapons. See (C13.48) and (C13.8) for details.

(C13.62) DAMAGE TO DOCKED SHIPS: Ships docked inside a starbase can be damaged by fire directed at the starbase (R1.1D). If the starbase is destroyed, see (C13.43). If the docked ship is destroyed, see (C13.66).
(C13.621) Cargo hits on a docking module can be applied to the ships docked inside that specific module instead of to cargo boxes of that module. After all cargo boxes in the docking module are destroyed, cargo hits on that module must be scored on the ships in that module (R1.1D-2A); if there are no ships, the damage proceeds normally against the base (i.e., score the cargo hit on the base or go to the next column on the DAC if there is no cargo and score that against the base, etc.).
(C13.622) All such damage is assumed to strike the #1 shield of the docked ship. The player may designate a different shield for each docked ship at the time it is docked, but this cannot be changed without undocking, leaving the module, and redocking.
(C13.623) If more than one ship is in the bay, the owning player may divide the damage as he sees fit but must decide which ship will be hit by each damage point as it is scored.

(C13.624) All damage scored on a given ship as a result of one volley against the starbase is resolved as one volley on the ship.

(C13.63) LAYOUT: The docking module is basically a huge sphere. Players need not keep track of the order in which ships dock or undock; any ship within the docking module can undock at any time regardless of any other ships within the module. Exception: (D21.47).

(C13.64) ENEMY SHIPS cannot dock in the docking modules of a starbase; friendly and captured ships can.

(C13.65) EXTERNAL DOCKING: Ships can dock externally to a starbase; in such case they are considered as being docked under rule (C13.7).

(C13.66) DESTRUCTION: If a ship inside a starbase docking module explodes (D5.0), all other ships in that docking module also explode immediately. Exception: PFs are treated differently (C13.664).
(C13.661) The combined force of the explosion is applied as internal damage to that docking module; it is not resolved as a normal explosion.
(C13.662) If the module is completely destroyed, any remaining damage is applied to the base itself.
(C13.663) The exploding ship and the other ships could attempt to use (D21.0). Due to (D21.47), one ship could escape from the docking module and would not explode along with the originally destroyed ship. The exploding ship cannot try to escape.
(C13.664) If the exploding ship is a PF, double the explosion force and apply it to each ship in the module (on a shield of the owner's choice) and to the module itself (in which case it is internal damage).

(C13.67) FACING UPON UNDOCKING: The ship will be placed on the map facing away from the base in the direction that the internal docking module is facing. Exception: The ship could undock in reverse.

(C13.7) EXTERNAL DOCKING TO BASES

Units docked externally to a base (of any of the various types, including base stations, battle stations, starbases, commercial platforms, mobile logistics bases, system activity maintenance stations, satellite bases, etc.) have the following additional restrictions and capabilities beyond those in (C13.4). This is the only type of docking most bases can perform.

All use of the term "docked" within (C13.7) indicates "externally docked."

See (C13.9) for ships docking to other ships.

See (C13.55) for additional information on docking externally to an FRD.

(C13.71) TRACTORS: Each ship is docked to and held by a specific tractor beam of the base. Each tractor beam can dock one ship, and these are the only places that a ship can dock. Tractors on attached Base Augmentation Modules or pods (including pods that are part of a mobile base, but not the two primary pods which actually comprise the mobile base) cannot be used for docking.

Andromedan ships dock to the TR beams (E9.4) of their bases, and must use a TR beam as a tractor to maintain docking. TR beams used for this purpose are then blocked and cannot fire while the docking is maintained. This blocking applies to both TR beams in a pair of linked boxes on an SSD with the same firing arcs even if only one is being used to maintain the docking. The second TR beam could be used as a normal tractor.
(C13.711) A ship can provide its own tractor beam to perform the docking, but still must dock to a specific tractor beam of the base. Ships (providing their own tractor beam) can dock to destroyed tractor beams. See (C13.144) and (C13.551).
(C13.712) The ship can continue to operate its shields.
(C13.713) The facing of the ship relative to the base [hence, the shield docking station, see (C13.915) below] must be designated; the ship then "rotates" (C3.7) with the base.

EXAMPLE: The #1 shield of the base station is facing in direction A. The ship is docked to the tractor beams of the base facing the #5 shield of the base. The ship's #1 shield is facing the base, so the ship itself is facing in direction B. The base rotates so that it (the base) is facing in direction C; the ship is now facing in direction D.

(C13.714) A ship can be forced to dock externally to a base against its will. The base must hold the ship in a tractor beam at the end of a turn and the ship must be in the same hex as the base [the ship may have been rotated into the hex of the base during the Initial Activity Phase (5)]. The base must announce its intention to force the ship to dock during the Final Activity Phase (7), and a tractor auction may be conducted at this time out of the normal sequence of play. If the ship is unable to break the tractor link, it is docked at the docking position corresponding to the original direction that the ship was in relation to the base. Internal docking cannot be forced; see (C13.45).
(C13.715) In the case of a BATS or Base Station, there are no docking positions facing in three directions. A ship facing one of these positions could be docked to either adjacent docking point specified by the owner of the base. The facing of the ship is unchanged and the docking station (on the ship) used will be the one facing the base if the ship was in the hex facing the base docking station used.
(C13.716) There is no way to "tear away" a ship docked to a base using tractor auctions. The physical dock reinforces the tractor holding the ship and is far stronger than a mere tractor link.

(C13.72) BLOCKED FIRING ARCS: The ship cannot fire or be fired at through the shield which corresponds to the docking station or the two adjacent shields. (The base's arcs are not blocked.) This assumes that the base is of a larger size class; if this is not the case, see (C13.724). The hexes on the border of the blocked and unblocked shield arcs are not blocked.

Exception: A ship docked externally to the cradle of an FRD is treated differently (C13.5512).
(C13.721) The ship cannot fire weapons, identify seeking weapons, guide weapons, or use any other systems against a unit in these arcs.
(C13.722) The ship cannot be fired at, or damaged (including seeking weapons) from these firing arcs. This includes damage from ESGs; in that case judge the "firing arc" from the ship generating the ESG sphere.
(C13.723) Seeking weapons can be targeted on the ship. Weapons targeted on the ship which approach from a blocked firing arc will strike the base. Seeking weapons targeted on an externally docked ship will not be diverted by a WW launched by a base to which it is docked.
(C13.724) If the ship is the same size class as the base, or larger than the base, only one firing arc of the ship is blocked (the one facing the base).

(C13.73) DAMAGE: Ships docked to a base are fired at, and hits on them are resolved, independently of the base itself.

NOTE: See (F2.335) when firing seeking weapons at a ship docked to a base. See (G16.46) when trying to put a ship docked to a base in stasis and (G29.23) regarding the base.
(C13.731) The base may extend its shields to protect an externally-docked unit of a smaller size class.

(C13.7311) The shield used to protect the docked unit is the one that covers/faces the docking point to which the unit is docked. A given shield can be extended to protect one or more of the units externally-docked to that shield facing. Any damage points applied to this extended shield of the base destroy two boxes of shielding (including reinforcement, if any); exception, see (C13.7314). If there is only one box of extended shielding left, it will absorb the last damage point and no fractional damage points will carry over.
(C13.7312) Direct-fire and seeking weapons are still targeted on the base and unit as separate units, but during the period that the unit is shielded the unit uses the ECM of the base, if any, and not its own ECM. Damage targeted on the base will first hit the base's shield (causing double the normal damage, see above) and then will hit the base itself; the unit and its shields will not be involved in this damage allocation. Damage targeted on the unit will first hit the base's extended shield (causing twice the normal damage) and will then hit the appropriate shield of the unit (causing normal damage, i.e., reinforcement, shields, etc.) and then penetrate to the unit itself (striking armor, if there is any). Shield-penetrating weapons (e.g., Spearfish drones) will consider the extended shield of the base (at half its normal strength, round any fractions up) and the shield of the unit as one shield for purposes of their calculations if targeted on the unit.

(C13.7313) Shield crackers will only affect the shield of the base if it is extended around a unit, and cannot affect the unit so long as it is shielded. If the base's shield has previously been destroyed (even in the same firing step), shield crackers will affect the target unit normally if fired at the unit.

(C13.7314) Enveloping weapons cannot be targeted on a unit around which a base has extended its shields. Enveloping weapons, including PPDs, operate against extended shields normally, i.e., as if the shield had not been extended.

(C13.7315) Shield extension is announced or cancelled in the Initial Activity Phase (after "separate sections" and before "roll for variable pulsar") of the turn and remains in effect for the entire turn. The shields can be dropped, or raised, normally even while extended around a unit, and if dropped, or previously destroyed, none of the above provisions apply.

(C13.732) See (C13.72) for firing arcs through which the ship cannot be attacked.

(C13.733) Enveloping weapons [hellbores (E10.0), enveloping plasma torpedoes (FP5.0)] attack the ship or base (whichever they were targeted on) independently, without regard to the fact that they are docked.

(C13.734) PPDs wave-locked to the ship will switch to the base if the base rotation moves the target ship to a position from which it cannot be attacked (C13.73). This will require a new wave-lock die roll.

(C13.74) DESTRUCTION: If a ship docked to a base is destroyed, the explosion is treated as taking place in that hex and affecting the base (and any externally docked ships) from the direction in which the ship was (relative to the base). The base's shields provide some protection (for the base) from the blast.

Ships docked inside other modules are treated as per (C13.62) [or (C13.52) for an FRD]. Ships docked externally to a directly-opposite docking position (reminder: docking positions correspond to shield facings) are not affected; the bulk of the base protects them from the blast. (Many bases, e.g., BATS, do not have "directly opposite docking positions.") No other units are blocked from the blast by the base.

See (C13.43) for what happens when the base is destroyed.

(C13.75) FACING UPON UNDOCKING will remain unchanged from the facing of the ship while docked.

(C13.76) CONDITIONS ON EXTERNALLY DOCKED UNITS: A unit docked externally is under these restrictions. See (C13.48) for internal docking.

(C13.761) An externally docked ship can arm, fire, and launch any weapon within the various restrictions including (C13.762). It may self-destruct; if so, see (C13.74).

(C13.7611) Ships docked to a base cannot fire at the base or guide seeking weapons targeted on the base.

(C13.7612) ESGs activated by either the base or the ship do not damage the other unit, and both are inside the sphere. See (G23.71) if both units attempt to activate an ESG.

(C13.7613) Maulers on a ship docked to a base cannot fire because they cannot aim accurately enough.

(C13.762) An externally-docked ship can use active fire control (D6.6), but this is considered to be "disrupted" (D6.68) unless specifically stated to the contrary in this rule or its subsections. While some weapons have difficulties firing at seeking weapons [ECM modifiers under (FD1.52)], all can be fired at seeking weapons if the seeking weapon is within the firing arc of the weapon and not otherwise blocked (C13.72). The restriction is on seeking weapons within three hexes of itself, which means the docked unit can fire at seeking weapons that are in essence targeted on the base to which it is externally docked. The docked unit could not, however, fire at an enemy ship even if it is at Range 1. An externally-docked ship's fire control remains disrupted for the first four impulses after it undocks [to include escaping catastrophic destruction (D21.463)]. Even without active fire control, the ship can use transporters and tractors to the base (C13.474).

(C13.7621) An externally docked ship can hold a lock-on, use labs, gather tactical intelligence, use EW and aegis.

(C13.7622) An externally-docked unit cannot benefit from passive fire control (D19.0) and begins the time period to gain the passive fire control benefits (D19.3) upon undocking. Docking cancels the passive fire control benefits.

(C13.7623) The base and ship do not benefit from each other's EW.

(C13.763) An externally docked ship cannot use energy for any movement purpose or expend movement points except to undock.

Exceptions: Ships towing an FRD (R1.10B) or externally docked to a base without active positional stabilizers (G29.0) [in the latter case use the procedures of (C13.92)].

(C13.7631) An externally-docked ship cannot double its engine output (G15.2).

(C13.7632) An externally-docked ship cannot separate ship sections (G12.0) [except as provided by (D21.0)] or drop its warp engines (G12.6).

(C13.7633) An externally-docked unit cannot HET (C6.0), use EM (C10.0), use emergency deceleration (C8.0), Tactical Maneuvers (C5.0), or take any other action requiring the expenditure of, or calculated in terms of, movement points.

(C13.764) An externally-docked ship cannot use special sensors (G24.0) except for (G24.28). It can use EW and receive lent EW. It cannot lend EW by any means, except self-protection (G24.28).

(C13.765) An externally-docked ship can cloak, but will gain no benefits from doing so except as per (C13.949). See also (G13.46).

(C13.766) Once docking has been achieved, the tractor energy is contained within the docking point and does not invoke the (G7.9) restrictions. While either the base or the ship could launch a WW, such a WW would protect only the launching unit, not both. Exception: (C13.947) for ships docked to other (non-base) ships.

(C13.767) An externally-docked nimble ship loses its nimble status (C11.34).

(C13.8) WEAPONS SAFETY WHILE DOCKED INTERNALLY

(C13.81) GENERAL: Due to safety restrictions, no energy-based weapons can be armed, loaded, or held while docked inside a base or FRD. This rule does include plasma-Fs held in stasis boxes, and plasma-Ds in racks must be deactivated. See Annex #7D. Phasers can be energized (E2.3).

(C13.811) A unit approaching the docking point would unload all such weapons (the energy is lost) in a safe manner (your crew will take care of this).

(C13.812) Energy-based weapons cannot be armed (including prior turns of multi-turn arming weapons) while docked inside a base or FRD. This restriction includes all weapons that require or store energy, including phaser capacitors, photon freezers, stasis boxes, etc.

(C13.82) EXCEPTIONS: There are some exceptions to this rule.

(C13.821) Shuttles and PFs based on the base/FRD are an obvious exception to this rule; those based on ships docked inside the FRD are not. Fighter (MRS) ready racks on ships docked inside the base/FRD can be loaded with non-energy weapons; plasma-Ds can be loaded but not energized. Fighters and other shuttles cannot be loaded with any weapons while on a ship docked internally.

(C13.822) Drone racks, anti-drones, mine racks, and other non-energy weapons can be loaded, unloaded, reloaded, etc.

(C13.823) Plasma racks can be loaded, but the torpedoes cannot be energized.

(C13.824) See (G19.27) for Andromedans.

(C13.825) A ship can begin arming weapons on the turn it undocks.

(C13.83) FIRE CONTROL cannot be active while docked internally (C13.482). The ship can (but is not required to) begin the four-impulse activation period (D6.633) upon undocking. An undocking ship that leaves its fire control inactive will not receive the (D19.31) passive bonus until 32 impulses have elapsed since the time of undocking.

(C13.9) SHIPS DOCKING TO SHIPS

Ships can dock to ships under certain circumstances. This creates certain advantages, disadvantages, capabilities, and limitations.

Note that (C13.9) is different from the rules about ships docked to bases (C13.4) because bases are designed for that action (with

special couplings and cradles) while ships are not generally designed to be docked to each other in space.

The docking of PFs to PFTs on mech-links and in internal bays is covered in (K2.0). PFs can dock to other ships within these rules (C13.9) using their tow bars (K1.25).

These rules are used for size-5 and larger units and cannot be used for items (monsters, etc.) which cannot be boarded. Shuttles "dock" only by (J1.6).

(C13.91) DOCKING: The two ships must be in the same hex. They can reach this position before or after the tractor beam (C13.921) is attached. One or both ships must execute a tractor beam attachment (G7.3). The tractor beam must remain attached (powered and undestroyed), or the docking is immediately canceled (C13.93).

(C13.911) Docking takes place in the Final Activity Phase; undocking (C13.93) takes place in the Initial Activity Phase [or immediately in the case of escape (D21.0), high warp maneuver (C13.948), or a destroyed tractor beam]. This occurs in the "ships committed to do so (un) dock" steps.

(C13.912) If the ships are facing in different directions, they can dock only if moving at Speed Zero; exception: ships facing in exactly opposite directions may use (C13.913) if one ship is moving in reverse.

(C13.913) If the ships are facing in the same direction, they can be moving at a maximum speed of one. The movement rules in (C13.92) will then apply to the combined ships.

(C13.914) Two ships need not drop their shields to dock to each other.

(C13.915) Each ship has six docking stations, one corresponding to each shield. When two ships are to dock, each keeps its facing, and the relative direction from one ship to the other is determined by (D3.42). This then determines which shields (and hence which docking positions), are facing. See (C13.941).

EXAMPLE: A Klingon D7 facing A is docking to a Federation CA facing in direction C. The procedures in (D3.42) determined that the Klingon ship is in direction B from the Federation ship. Thus, the Klingon #5 shield is facing the Federation #6 shield, and that is where the ships are docked. (This particular docking arrangement is only possible if both ships are at Speed Zero.)

(C13.916) A ship cannot dock to a ship which is, itself, docked to a base.

(C13.917) Docking can be forced by one ship against the will of the other ship. Only a ship generating a tractor link can force docking. Both ships must be in the same hex [this may have been accomplished by rotation during the Initial Activity Phase (5)] The ship with the tractor beam must announce its intention to force the ship to dock during the Final Activity Phase (7). This requires a tractor auction (outside of the normal sequence of play), with the winner of the auction forcing (or disallowing) the docking. This can be done even if one unit is cloaked.

(C13.918) Docked nimble ships lose their nimble status; see (C11.34).

(C13.92) MOVEMENT OF DOCKED SHIPS: Two ships which are docked to each other (not to a base) move within the following rules. See also (C13.97) for restrictions when more than two ships are docked.

(C13.921) If docked, they are treated as two ships linked by a tractor beam [(G7.36), but see (C13.947)], but they cannot remain docked if the combination is moving at a net speed (C2.4) faster than two hexes per turn or if either ship is moving faster than two hexes per turn. If this speed is exceeded by any means, the ships are undocked when the speed change takes effect in the Voluntary Movement Stage (6A2) but the tractor beam is not broken. The practical (C2.411), rather than effective (C2.412), speed is used; e.g., speed induced by a black hole (P4.0) is not counted within this limit.

(C13.922) The ships retain the same relative facing for as long as they are docked. Should either ship turn, the other ship will make a corresponding turn to maintain the same relative facing. The Turn Mode of docked ships is increased by one while docked.

(C13.923) Neither ship can be performing EM (C10.0) when docking begins, and neither ship can begin using EM when docked. If docking with an enemy ship that is performing EM [without effect due to (G7.92)], two points of additional tractor power are required to complete the docking. The act of docking halts the EM, which cannot be resumed while the ships are docked.

(C13.924) Neither ship can perform an HET while docked (C6.37) as this would cause the ships to become undocked immediately (C13.948).

(C13.925) Performing a (C3.6) quick reverse (by one or both ships) will cause the ships to become undocked (C13.948).

(C13.926) If neither is moving, the combined ships may each make one Tactical Maneuver (C5.0); a maneuver by one ship turns both of them. If both ships want to make a Tactical Maneuver on the same impulse, resolve it as follows:

If both want to turn the same direction, turn 60° (not 120°) in that direction.

If they want to turn opposite directions, the maneuvers cancel each other and the ships do not turn.

Friendly ships cannot make Tactical Maneuvers within 1/4-turn of each other.

(C13.93) RELEASE: The ship maintaining the tractor beam controls whether or not the ships dock or remain docked. Releasing the tractor beam will cause the ships to undock. If both ships are maintaining tractor beams, either one can insist on docking and the ships can undock only if both agree or release the tractors (or some other condition releases the docking). Note that if other conditions prohibit docking, such insistence would be meaningless. Any units in the process of transferring at the time of undocking return to their original ship. Cargo is handled by (G25.235).

(C13.94) TREATMENT OF DOCKED SHIPS: Two docked ships are not treated as a single entity. Each is fired at and damaged separately; exception: (C13.943).

(C13.941) The docked ships block each other's firing arcs [as in (C13.724)] through the shields corresponding to the docking station (C13.915), but fire at these ships is not blocked. They are treated as separate targets. Each can maintain or drop its own shields; the shields of one do not enclose or combine with the other. [Ships in a Tholian pinwheel do combine their shields; see (C14.24) for details.]

A scout docked to another ship may still use its special sensors (G24.0), but they will be blinded (G24.13) by weapons of the ship to which they are docked, just as if the weapons were the scout's own. Ships (but not shuttles) which are docked may still continue to lend EW (including a carrier lending to its fighters).

(C13.942) If one is destroyed, the other can attempt to escape by (D21.0), acting as a ship docked to a base. If it fails to escape, it is automatically destroyed and added to the explosion. If it succeeds, crew units from the doomed unit can transfer at the time of escape as defined in (D21.46). This rule can be used if the other ship self-destructs (D5.0).

(C13.943) If seeking weapons are targeted on one of the ships (before or after the docking takes place), then when the ships separate each weapon will randomly select one ship as a target. If the ships are still docked, the seeking weapons hit both of them with the full effect of its warhead on both ships.

This effect (full weapons effect on both ships) does not apply to PFs docked to mech-links (K2.41) [or to a PFT's internal repair bay (K2.62)], ships docked to bases or FRDs, or units docked inside other units; see (F2.335).

(C13.944) For explosions, WW collateral damage, same-hex combat, etc., determine the facing shield for either ship and use the corresponding shield (based on docking attitude) for the other. For purposes of setting off mines, roll for the larger of the two ships and apply the results to both. Note that in this situation, the mine considers the combined ships to be the size class of the larger ship, and if set for a smaller size class than the larger ship (or a size class larger than the larger ship) the mine would not accept the target and no roll would normally be made. Note that the owner of the mine may roll the die in any case and announce that it did not trigger since the ships would detect the mine under (M7.34). This procedure is also used for ESG fields (G23.52), which interact with the two ships individually and simultaneously, exactly as would be done if the ships were not docked but simply in the same hex.

(C13.945) Docked ships capable of separating sections (G12.87) can do so. However, the docking station in use (C13.915) will determine which section remains and which leaves. See (G12.0).

(C13.946) The combination could be put in stasis (G16.0) (at a cost of one field) or displaced (G18.0) (as a unit), but individual members cannot.

(C13.947) Once the ships are docked (i.e., physically touching), the restrictions of (G7.9) no longer apply (in so far as the tractor link

between them). The tractor energy is contained at the docking stations. Thus, either ship could launch a wild weasel, (J3.0), and a wild weasel launched by either ship would protect both. Either ship could void the weasel by taking a proscribed action. In the event that a WW launch is followed by undocking, a voiding action by either ship would result in all weapons accepting that ship. If both ships voided the weasel simultaneously, roll for each weapon as per (C13.943).

(C13.948) If either ship performs a "high warp maneuver" (HET, quick reverse, breakdown, tumbling), the ships become undocked immediately. See (C13.911) and (C13.924).

(C13.949) The operation of a cloaking device by docked ships is as follows. See (K1.253) for PFs. See (G13.46) when trying to dock with a cloaked unit. See (G13.431) for the effect of the tractor beam.

(C13.9491) If both ships have cloaking devices and both operate them, both ships are considered cloaked when both have phased out and until one begins phasing back in. If either ship voids or deactivates its cloaking device, both cloaks are voided (G13.4); however, per (G13.401), the range penalty (G13.302) and damage adjustment (G13.303) might still apply to either or both ships.

(C13.9492) If one ship operates a cloaking device, there will be no effect unless that ship expends an amount of energy equal to the combined cloaking costs of both ships. In that case, the cloak is effective for both ships and both ships will fade out (or fade in) simultaneously. If one ship does not have an established cloaking cost, use the size-based cost given in Annex #7H. If either ship takes a voiding action, the cloak is voided (G13.4) for both. PFs and their PFTs are governed by (K2.46) and not by this rule.

(C13.9493) If one ship is covering both with its cloak, and the two ships undock, the ship without a cloaking device begins fade-in immediately. The ship with the device can be locked onto during the separation impulse (G13.33).

(C13.9494) Ships may shift between using the procedures of (C13.9491) and (C13.9492) at any time, leading to situations where one ship is no longer covering the other under (C13.9492), while both ships are activating or deactivating their individual cloaking devices. To determine the level of "fade out" for each ship (G13.14), use the greatest degree of "fade-out" available for that individual ship from using either (C13.9491) or (C13.9492). This creates a partial exception to (G13.113) in that the activation or deactivation of a cloaking device by one ship does not affect the ability of the other ship to do so.

(C13.95) CONDITIONS (FRIENDLY SHIPS): If two friendly ships are docked (to each other, not to a base), the following conditions apply:

(C13.951) Each ship can transfer to the other a maximum of sixteen crew units per turn [one every second impulse in the Marines Activity Stage (6B7)] starting eight impulses after docking is achieved. If units are transferred into a combat area (and used in combat on that turn), the rate is half the above. If using (D16.0), this would apply only if the section containing the docking station were a combat area.

(C13.952) After remaining docked for three complete turns, one ship can transfer power to the other (B3.1). The limit on power transferred each turn is the Damage Control rating of the giving ship. This is done during the Energy Allocation Phase; the ships must be docked at the start of a turn for the transfer to take place. This power, regardless of its source, is not treated as warp power. Transferred power cannot be used to arm or fire weapons (anything listed in Annex #7D) or for any form of movement. See (C13.956).

(C13.953) Cargo can be transferred (with the consent of both ships) at the rate specified in (G25.23).

(C13.954) Miscellaneous small objects (e.g., dilithium crystals, rock samples, etc.) can be transferred (with the consent of both ships) with a crew unit, by a special scenario rule, or as cargo (G25.23).

(C13.955) Transporters will function between the ships even if their shields are still up and fire control is inactive; see (C13.474).

(C13.956) Power cannot be transferred to or from PFs. Two PFs docked to each other can transfer crews and small objects (e.g., crystals recovered in some scenarios), but they cannot transfer power or weapons.

(C13.957) Ships docked to repair freighters or tugs can receive a limited number of repair points; see (G17.0).

(C13.96) CONDITIONS (UNFRIENDLY SHIPS): If two unfriendly ships are docked (to each other, not to base), the following conditions apply:

(C13.961) Each ship can transfer crew units as in (C13.951).

(C13.9611) Crew units cannot be transferred until a "bridgehead" has been created on the other ship (unless the arriving units surrender immediately).

(C13.9612) To establish a "bridgehead," each ship assigns up to ten boarding parties during the Resolve Boarding Party Combat Step of the Final Activity Phase. These cannot include units used as guards or involved in other actions on that turn. The two forces then fight (D7.4); the force that scored more casualties may advance into the enemy ship and become the "bridgehead." Either force may declare that it is defending (in which case it cannot advance even if it scores more casualties); such a force is doubled in offensive capability. If both defend, there is no combat. A more detailed system is given in (D16.6).

(C13.9613) Cargo is transferred by (G25.23).

(C13.962) Nothing else can be transferred between the ships unless one of them is captured; at which point it is considered under (C13.95).

(C13.963) If using the (D16.0) Boarding Party rules in *Module M*, the docking station selected in (C13.915) determines which "area" of one ship is connected to which "area" of the other. Then resolve the situation within the boarding party rules. See (G12.87) in the case of ships with separable sections.

(C13.964) Docked ships cannot fire direct-fire or seeking weapons at each other. They could continue to guide seeking weapons [but not to the unit they are docked to (D1.56)]. An ESG released by one ship would not affect the other. They do block each other's fire to some extent; see (C13.941).

(C13.965) Hit-and-run raids cannot be conducted through the docking ports, but must be performed by transporter. Transporters will not function between unfriendly ships unless facing shields are down.

(C13.97) MULTI-SHIP DOCKING: The above rules are designed for the docking of two ships. If three or more ships are docked together, the combination is treated as above but it cannot move (or make Tactical Maneuvers). Ships cannot transfer power to a ship they are not, themselves, docked to.

There are several exceptions: bases (C13.916), FRDs, PFTs, and Tholian Pinwheel (C14.0).

(C13.98) SHUTTLES DOCKING TO SHUTTLES OR SHIPS

Shuttles can, within some limits, dock to other shuttles or to ships. This is, however, a difficult maneuver almost never tried in combat because it places both units in extreme danger.

(C13.981) Non-fighter shuttles can dock to ships or to other non-fighter shuttles generally under the provisions of (C13.9) with the following exceptions:

(C13.9811) Both the shuttle and the ship, shuttle, or other unit (e.g., a derelict cargo pod) must be moving at Speed Zero. The shuttle must spend an entire turn (from Impulse #1 through Impulse #32) in the hex adjusting its orientation and performing the actual docking maneuver at the same time as ships in the Final Activity Phase.

(C13.9812) Shuttles docked to ships or other shuttles cannot fire any weapons or take any action other than transferring cargo (or personnel) or undocking.

(C13.9813) Shuttles docked in this manner undock by the same procedures and under the same restrictions as launching from a ship; see (J1.34) and (J1.5).

(C13.9814) Shuttles docked externally in this manner are automatically undocked if the unit they are docked to moves at Speed 1 or more rather than Speed 2 or more (C13.921).

(C13.982) Fighters cannot "dock" externally since they have no airlocks, hatches, pneumatic docking rings, magnetic grapplers, or other such equipment. At best, a fighter could stop next to a unit that is also stopped, at which point the pilot could don his protective suit, open his cockpit, and leave the fighter to perform whatever task has forced him to this unusual condition (e.g., boarding a derelict, handing a computer disk to the pilot of another shuttle or someone standing in that hatch of a shuttle or ship, etc.) This is under the same restrictions as (C13.981) but the two units are described as "tethered" rather than docked and the movement of either unit (e.g., under its own power, towed by tractor) would break the "tether" immediately without other effect on either unit. Once untethered, the fighter must remain stationary and is unable to fire its weapons for 32 impulses as the pilot returns to the cockpit and reseals it. The fact that a given fighter

is a two-seat or heavy fighter, or that the pilot did not actually open the cockpit hatch, does not relax these restrictions.
(C13.983) Any deck crew actions performed on shuttles docked in this manner will take TEN times the normal number of impulses due to the difficult conditions. If there are no formal deck crews (only the pilots and shuttle crews) such actions will take TWENTY times the normal number of impulses.

(C14.0) THE THOLIAN PINWHEEL *(Advanced Rule)*

In Y167, Wing Commander Secthane of the Tholian Third Patrol Squadron was surprised on border patrol by a Klingon squadron. Unable to outrun the more powerful Klingon force, Secthane formed his three ships into a "pinwheel," (pinwheel) docking them stern-to-stern-to-stern with their weapons facing outward. Secthane did not survive the battle, but his log buoy revealed that the pinwheel was a standard Tholian tactic. It is available to the Tholians in all time periods.

(C14.1) OPERATION OF A PINWHEEL

The three ships are mated stern-to-stern-to-stern and function in all ways as a single ship. Special SSDs are provided for some common configurations.

(C14.11) COMBINED UNIT: Energy is produced and allocated (B3.1) collectively. Elements unique to one ship are transferred to other ships in a pinwheel, e.g., a ship equipped with aegis can use the aegis fire control system and is able to allow any other ship in the pinwheel to use that system. All units in a pinwheel benefit from the ECM or ECCM generated by any single unit. If a scout (G24.0) is part of a pinwheel, and lends itself defensive ECM (G24.28), all units in the pinwheel will benefit from this ECM until the sensor is destroyed or blinded. External lending (G24.21) is given to each ship individually and is not shared, including Offensive EW (G24.219).

(C14.12) WARP MOVEMENT: The pinwheel cannot move by warp power. Warp power cannot be used for any movement-related function (warp- Tactical Maneuver, EM, HET, etc.).

(C14.13) IMPULSE MOVEMENT: The pinwheel can move by impulse power (one point of power moves it one hex, the maximum speed). A pinwheel cannot rotate (C14.131) while it is moving.
(C14.131) If the PW does not move, but does allocate one unit of impulse power to maneuvering, it can be set to rotate as a base; see (C3.7). The only rotation rate a PW can use is three (hex sides per turn). Rotation requires one point of impulse power each turn, and the PW rotates for that entire turn. The rotation stops if rotation energy is not allocated. Reserve impulse power cannot be used for rotation.
(C14.132) A pinwheel cannot use EM (C10.24).
(C14.133) A pinwheel can use a sublight Tactical Maneuver (C5.1) if it is not rotating.
(C14.134) The one point of impulse power used for moving (C14.13), rotating (C14.131), or for a sublight Tactical Maneuver (C14.133) counts against the impulse limit (C2.111) and effectively limits the PW to choosing one of these options in each turn. Per (C2.111) the PW can stabilize its orbit (P8.432) without that energy counting against this limit.

(C14.14) DISENGAGEMENT: A pinwheel cannot disengage by any method including sublight evasion (unless it is separated).

(C14.15) RESET TO ZERO: Forming a pinwheel stops any positron flywheel (C9.233) and resets all Turn Modes (C3.45) and side-slip (C4.36) modes to zero. The ships are at Speed Zero (C2.233).

(C14.16) CRITICAL HITS: If a critical hit (D8.0) is scored on the pinwheel, it affects only one of the three ships. Roll a die after arbitrarily designating one ship 1-2, another 3-4, and the third 5-6.

(C14.17) POSITIONAL STABILIZERS: Pinwheels do not have positional stabilizers (G29.0).

(C14.18) TOWING COST: The towing cost of a pinwheel is equal to the sum of the movement and towing costs of its elements.

(C14.2) FORMING A PINWHEEL

(C14.20) PROCEDURE: To form a PW, three eligible units, Annex #7R, move into the same hex and end their movement on Turn #N. On Turn #N+1, they do not move, but change their facing (within the rules, e.g., by a Tactical Maneuver) so that they are facing in directions A-C-E or B-D-F (each ship facing a different direction) without leaving the hex. At the start of Turn #N+2 [if power is allocated as per (C14.23)], the PW is formed and fully operational.
(C14.201) The formation of a PW (or its separation) is conducted and announced in the Pinwheel Step of the Energy Allocation Phase.
(C14.202) Two types of pinwheels are possible, those formed from non-PF ships (C14.21) and those formed from PFs (C14.22). In either case, three ships are required. Ships and PFs cannot be mixed in the same pinwheel.

(C14.21) SHIP PINWHEELS: Ships form pinwheels (PWs) based on their hull types. A ship (non-PF) pinwheel is size class 2 for purposes of life support (B3.3), shield cost (D3.32), etc. Categories of hulls for purposes of pinwheels are listed in the rules below and will be updated in the ship descriptions. Ships from different categories cannot be in the same pinwheel (e.g., PC, CW, CoM).
(C14.211) PC: Any PC-hull ship can be used in a PC-pinwheel; see the complete list in Annex #7R. PCs in pinwheels could have cargo packs, but CPCs could not have pods.

First generation X-versions of the above listed ships cannot be incorporated into a PC-pinwheel.

Neo-Tholian command modules can only dock with each other; see (C14.214). Police cutters can only dock with eachother.
(C14.212) CW: Three CWs (including any variants listed in Annex #7R) can form a pinwheel. Ships in CW-pinwheels could have cargo (or other) packs, but LTTs could not have pods.
(C14.213) INELIGIBLE: Some units are not eligible to be part of a pinwheel. These are listed in Annex #7R; examples include the dreadnought, web tender, and cruiser and their variants.
(C14.214) CoM: Neo-Tholian command modules could pinwheel (using the web caster as a web generator), but this is extremely unlikely to happen.

(C14.22) PF PINWHEELS: Arachnid PFs can also form pinwheels, but only if at least one is web-equipped (C14.231), and then only with other PFs.
(C14.221) A PF pinwheel is considered to be size class 4.
(C14.222) The PF-PW requires one point of power (from the ship with the web generator) to hold the PF pinwheel together (C14.23).
(C14.223) The PF-pinwheel does not require life support and uses the PF shield reinforcement rules.
(C14.224) PFs in PWs can have warp booster packs (K1.6); if any PF in a PW does, all are treated (for damage purposes) as if they do.

(C14.23) HOLDING: The pinwheel is held together by the web systems. (Tractor beams are not an acceptable substitute.)
(C14.231) At least one ship in each pinwheel must have at least one working web generator. The specific generator performing the task is designated in the Energy Allocation Phase. The designation is not announced unless a designated generator is destroyed.
(C14.232) Up to three generators (one per ship) can be designated (C14.231). The power requirement (C14.233) is not increased, but each ship must power its own web generator. This might be done to avoid involuntary undocking (C14.32) due to the loss of a single generator.
(C14.233) The ships of a non-PF pinwheel must allocate three units of power per turn and have at least one working (undestroyed) web box (C14.231) in order to remain together. One point of power must come from the ship with the web generator that is holding the pinwheel together; the other two points can come from any ship. PF pinwheels (C14.222) pay less energy.
(C14.234) If the energy is not allocated, the pinwheel undocks (C14.31). This is announced in the Pinwheel Step of the Energy Allocation Phase, before other players have completed their Energy Allocation Forms.

(C14.24) SHIELDS: The shield facing each direction (A, B, C, etc.) is formed by combining the shield from each of the component ships that faces in that direction.

EXAMPLE: The ships are facing in directions B, D, and F. The shields of the pinwheel are as follows:

SHIELD	SHIP #1	SHIP #2	SHIP #3
A	#6	#4	#2
B	#1	#5	#3
C	#2	#6	#4
D	#3	#1	#5
E	#4	#2	#6
F	#5	#3	#1

Damage to shields when a pinwheel is formed or separated is resolved along these lines. The Tholian player distributes the damage to the three ship-shields that make up a pinwheel-shield at his option. Prior damage to those shields of course reduces the strength of the combined shield.

It has never been adequately explained how they accomplish this as shields cannot otherwise be shifted or combined.

(C14.25) WARP ENGINES: The warp engines of one of the three ships are arbitrarily designated "left," another "right," and the third "center" by the Tholian player. These designations cannot be changed as long as the pinwheel remains intact. This designation must be announced immediately upon docking.

(C14.26) TRACKS: When a pinwheel is formed:
(C14.261) The Excess Damage boxes of all three ships are combined. When the pinwheel separates, these hits are distributed among the three ships as evenly as possible by the Tholian player.
(C14.262) The Damage Control Rating of the pinwheel is the sum of the highest undestroyed damage control box on each of the component ships. The Tholian player scores any Damage Control hits on the ships of the pinwheel at his option (within the normal rules). When the pinwheel separates, each ship retains its own track with any damage suffered.
(C14.263) Only one Sensor and one Scanner track operates (owning player's choice); the owning player can switch from one ship's track to another during the Energy Allocation Phase of each turn.

(C14.27) SHIPS WHICH CANNOT FORM PWs: A ship cannot be incorporated into a pinwheel if it is in stasis (G16.0), on Erratic Maneuvering (C10.24), or cloaked (G13.0).

Ships that have landed on a planet cannot form a pinwheel; see (C14.46).

Ships listed in (C14.213) cannot be in pinwheels.

(C14.28) PRIOR INVOLVEMENT
(C14.281) Any seeking weapons targeted on a ship incorporated into a pinwheel accept the pinwheel as their target.
(C14.282) If any element of the pinwheel was held in a tractor beam or PPD wavelock when the pinwheel is formed, the entire pinwheel is held in that tractor or wavelock. See (C14.37).

(C14.29) BLOCKED ARCS: The LR and RR firing arcs are blocked on all ships, but other firing arcs operate normally. (Note that this includes the LR and RR portion of larger arcs, such as RX, LS, RS, 360°, etc., but does *not* include the hex rows forming the boundary between the LR and L and between the RR and R arcs.) Snares (E13.0) cannot be used except as web generators to hold the pinwheel.

(C14.3) SEPARATING A PINWHEEL

(C14.31) SEPARATION: The pinwheel can be voluntarily separated into three separate ships at the beginning of any turn, during the Pinwheel Step of the Energy Allocation Phase. At this point, the pinwheel counter (if used) is replaced with the ships, which are placed facing in the respective positions (A-C-E or B-D-F).

(C14.32) LOSS OF WEB BOXES: If all web boxes designated as holding the pinwheel together (C14.232) are destroyed or become non-functional (by any means), the pinwheel is considered involuntarily separated at the end of the turn (in the Ships Committed to dock Step) when the last designated (C14.231) web generator was destroyed. This occurs even if other, non-designated, web generators remain available, although that would allow the ships to re-dock as per (C14.20) at a later time. (There would be a minimum of one turn in which they were not treated as a pinwheel.) The enemy player cannot directly force a pinwheel to separate. Another form of involuntary separation is found in (D22.57).

(C14.33) MODES ZERO: All three ships function normally immediately after separation. They are at Speed Zero for purposes of acceleration and can begin moving on the next turn (or they could begin re-docking). The ships have not accumulated any movement toward the satisfaction of turn or sideslip modes.

(C14.34) CREW UNITS: Any crew unit, deck crew, or boarding party casualties scored on the pinwheel are distributed by the Tholian player to any of the ships of the pinwheel at his option. Consequently, each component ship maintains its own separate listing of crew units, etc., during the time they are docked. Crew units can be transferred; see (C14.42).

(C14.35) ESCAPE: Component ships cannot escape (D21.4) from a destroyed pinwheel. Shuttlecraft, crews, and PFs (those attached to PC-pinwheel ships, not those forming a PF-pinwheel) on those ships can escape by the normal rules.

(C14.36) SEEKING WEAPONS: If seeking weapons are targeted on the pinwheel when the ships separate, each seeking weapon will randomly select one ship as a target; use the procedure in (C14.16).

(C14.37) TRACTOR BEAMS: If the pinwheel is held in a tractor beam (or PPD wave-lock) and then separates, only one of the component ships (determined randomly) remains held by the beam (or wave-lock). Use the procedure in (C14.16) to randomly determine which ship is held in the beam/wave.

(C14.4) EFFECT OF A PINWHEEL

(C14.41) INDIVISIBILITY: Individual elements of a pinwheel cannot be placed in stasis (G16.0), displaced (G18.0), tractored (G7.4), cloaked (G13.0), or surrounded by a hellbore/enveloping plasma torpedo. In each case, however, the entire pinwheel can be (as if it was a single unit).

(C14.42) TRANSFERS of crew and cargo between ships of a pinwheel are conducted as if the ships were docked (C13.95).

(C14.43) SCOUTS: If one component ship is equipped with scout (special sensor) channels, the fire of other component ships will blind these channels (G24.13).

(C14.44) DOCKING: A ship (not a component of the pinwheel) docked to one component ship of a pinwheel is presumed to be docked to the #1 shield docking station of that ship (C13.915) and connected by a passage [if using (D16.0)] to the forward area of that component ship. Firing arcs are blocked on the pinwheel and the other ship; see (C13.941).

(C14.45) WEB: Pinwheels cannot lay web (G10.21), but can reinforce web in the same or an adjacent hex. A pinwheel can serve as an anchor (G10.13) if another ship lays web to the pinwheel or if the pinwheel is formed in a web hex. The web used to hold the pinwheel together does not count as web for purposes of an interaction between two webs, e.g., (G10.124). A pinwheel can operate web spinners (G10.24).

(C14.46) LANDING: Pinwheels cannot land (P2.4). Ships which are landed (on planets or large asteroids) cannot form pinwheels.

(C14.47) BOARDING: For purposes of boarding party combat, treat each ship of the pinwheel separately.
(C14.471) The pinwheel shields are combined (C14.24) so you cannot board one ship if that ship has one shield totally destroyed, assuming that at least one other component ship has a shield facing in that direction. If one of the combined shields is down, all of the ships in the pinwheel can be boarded (by transporter) through that shield.
(C14.472) As the ships can transfer boarding parties, they can assist in each other's defense.
(C14.473) Capturing the section (D16.0) with the designated web generator (C14.231) could force an involuntary separation if the enemy marines deactivated the generator.

END OF SECTION (C0.0)

(D0.0) COMBAT

(D1.0) GENERAL RULES

Combat takes place during the impulse procedure of each turn. Combat consists of firing weapons at the units of the opposing player (or players) with the intention of damaging or destroying those units.

(D1.1) PURPOSE OF COMBAT

The actions of combat are a means to an end, not an end in themselves. Combat is a means to gain or maintain control of territory or to destroy or reduce enemy forces as a means to that end. The operation of combat involves causing damage to enemy units to such an extent as to destroy them or compel them to go elsewhere.

(D1.2) OPERATION OF COMBAT

Within the game, players will use weapons to cause damage to enemy ships (or other units). The impact of each weapon results in a number of "damage points" as determined by the rules for that weapon. These damage points are then allocated by the Damage Allocation Chart or DAC (D4.21) to cause damage to specific equipment on board the ship (or by other procedures to cause damage to other types of units), thereby reducing its capabilities.

(D1.3) WEAPONS TYPES

Weapons are divided into two types. These are "direct-fire" and "seeking." Direct-fire weapons score damage immediately when they are fired. Seeking weapons move toward their targets and score damage after impact; this movement may take several impulses or even several turns. Many other systems, such as mines (M0.0) and expanding sphere generators (G23.0), cause damage and therefore have some of the effects of weapons, even though they are not actually weapons.

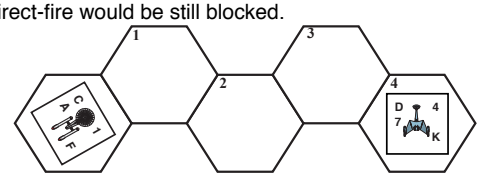
The term "weapons" is used in various contexts to include different items. Refer to Annex #7D for specific information.

(D1.31) DIRECT-FIRE WEAPONS include, for example, phasers, disruptor bolts, and photon torpedoes. Direct-fire weapons are covered in section (E0.0). These are weapons, which are aimed and fired at targets; their effects are resolved immediately (in the Direct-Fire Segment).

(D1.32) SEEKING WEAPONS include drones, plasma torpedoes, and in some cases shuttlecraft. Seeking weapons (F0.0) are "launched" during a specific part of the turn and represented by a counter that moves on the map and follows a target. Their damage is resolved during the Movement Segment (when they hit their targets).

(D1.4) RANGE

To determine the range to the target, count the number of hexes from the hex occupied by the firing unit to the hex occupied by the target unit along the shortest possible route without skipping hexes. Count the hex occupied by the target, but not the hex occupied by the firing unit. If both are in the same hex, the range is zero. This is the "true range." The "effective range" (which may be different from the true range due to sensors, scanners, cloaking devices, and other effects) is the range used on the various weapons tables. The line of fire is traced from the center of the hex the firing unit is in to the center of a target unit's hex. If the line of fire passes through blocking terrain, it is blocked. Even though you could count a line of fire between the two units that does not pass through any blocking terrain hexes, direct-fire would be still blocked.



Effective range = True range [which will be doubled if there is no lock-on, perhaps because of sensor (D6.1) damage or a cloaked (G13.301) target]
+ Scanner factor
+ other adjustments required by various rules, such as a nebula (P6.71) which adds three for some effects, or a cloak (G13.302) which adds five.

All range rules use "effective range" unless specified otherwise.

(D1.5) FRIENDLY FIRE

There are some cases under which a unit may be compelled to fire on a friendly unit (i.e., a ship on the same side). This is known as "friendly fire," a term that indicates the origin (not the nature) of the firepower involved. To prevent player abuse, there are several restrictions on this procedure. Units may not fire upon or guide weapons targeted on a friendly unit except in the cases listed below. (Note that the target unit may be manned or unmanned.)

Players are never required (by the rules) to use friendly fire. The tactical situation may make it advisable.

(D1.51) SELF-DESTRUCTION: A friendly unit may be fired upon if it is eligible for self-destruction (D5.51). Friendly PFs can be fired at only if the entire crew has been evacuated.

(D1.52) CAPTURE: A friendly unit may be fired upon to prevent its capture. This is defined as one or more of the following conditions:

(D1.521) The unit is in danger of being captured by boarding. To qualify for this, it must satisfy all of the following requirements:

A. Be within transporter range of at least one enemy ship with available boarding parties and operable transporters.

B. Have at least one destroyed shield facing enemy ships within transporter range.

C. Have enemy boarding parties on board equal to 75% of its own boarding parties (round fractions up) including all currently available conversions to militia. (If the enemy boarding parties are equal to 150% of the friendly ones, conditions A and B are not required.)

(D1.522) Other friendly units are disengaging and the unit in question is unable to disengage. In this case, all friendly units must, after firing at the unit, proceed to disengage in an expeditious manner. They may fire at the endangered unit until it is destroyed. They may fire only at that unit [plus any target qualified for Aegis (D13.2) fire] until they have disengaged. The disengaging player must announce when he is invoking this rule; this can be done on any given impulse.

(D1.523) The unit is held in an enemy tractor beam and is unable to break free after at least one complete turn of attempting to do so, including using all reserve power and the maximum available power (not counting weapons, shields, fire control, life support, and one point of movement) during an Energy Allocation Phase auction.

(D1.524) If the ship is captured by enemy boarding parties, it becomes an "enemy" ship and can be fired on; the friendly fire rules do not apply.

(D1.53) SEEKING WEAPONS: Friendly seeking weapons can be fired upon without restriction. This rule applies if the weapon has a chance of scoring one or more damage points, regardless of whether or not actual damage results from the die roll.

A friendly scatter-pack shuttle which is fired upon (by friendly fire) but not destroyed (or even damaged, i.e., the shot misses) loses its tracking and goes inert; see (FD7.47). (This does not apply to other seeking weapons.)

(D1.54) WILD WEASEL: An active friendly wild weasel may not be fired upon at any time because of the battle computer interlocks. A voided WW may be fired on to prevent its capture; see (J3.22).

(D1.55) SWAC, PFS: A friendly SWAC shuttle or wild PF scout is treated as a ship for purposes of friendly fire.

(D1.56) SELF-FIRING: Ships cannot fire at themselves, launch seeking weapons at themselves, or guide seeking weapons toward themselves. Ships cannot allow their own weapons to explode in the launch tubes. (You might want to do it, but your weapon crews do not appreciate your motives.)

ECM drones using station keeping (FD9.11) are an obvious exception to this rule. While an ECM drone could also carry an

explosive payload, an ECM drone-using station keeping would never explode because it never hits its target.

(D1.57) ANDROMEDAN MAULERS: Andromedan ships may fire at their maulers for purposes of recharging energy, but only if the fire cannot (by any mathematical chance) exceed the capacity of or penetrate the panels. This rule does NOT allow a mauler to fire at other Andromedans (including another Andromedan mauler), *nor* does it allow a non-mauler Andromedan to fire at other Andromedans.

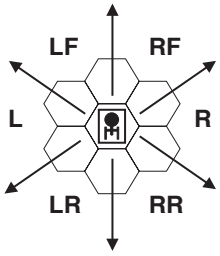
(D2.0) FIRING ARCS

All ships with weapons have those weapons designated as to which direction they can fire. This is done in terms of firing arcs.

(D2.1) FIRING ARC DESIGNATIONS

Note the diagram to the right. This diagram is used to designate firing angles for all ships in the game. It is repeated on each SSD. The area around each ship is divided into six "firing arcs," each of which is designated by code letters:

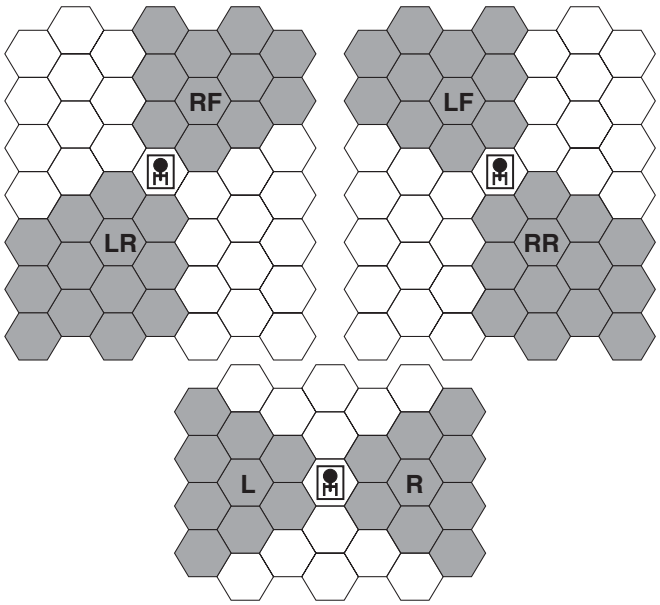
LF - left forward, RF - right forward, R - right, L - left, RR - right rear, LR - left rear.



(D2.11) DESIGNATION: Each weapon on the SSD (except for drones and ADDs) is marked with one or more of these designations. For example, the left phasers on the Federation heavy cruiser are marked: L+LF. This indicates that they can fire in the left and left forward firing arcs. Note that when several weapons are shown as a group of adjoining boxes (such as the two phasers on the Fed CA just mentioned), all of them can fire in all of the arcs shown. In some cases (such as the wings of the Gorn BC), two separate sets of phasers are given a single firing arc designation to save space.

(D2.12) BOUNDARIES: Each firing arc is a 60° section of the map bounded by two straight rows of hexes.

For example, a ship in hex 0925 which is facing hex 1025 (direction C) would have a right forward (RF) firing arc bounded by the row of hexes from 0925 to 1628 (directly forward) and the row from 0925 to 0932. All hexes on these rows (which extend to infinity) are within the RF firing arc and can be fired at by any weapon capable of firing in the RF arc (examples: 1132, 1229, 1430, 1831, 0927, and 1528). Hexes outside of this arc (examples: 0716, 2610, 0924) cannot be fired at by a weapon with only the RF designation.



(D2.13) 360° FIRING ARCS: Some weapons are designated as 360°. These weapons can fire in ANY firing arc. Note that each firing arc overlaps the adjacent arcs on each side by a single row of hexes. For example, all six phasers in the saucer of the Federation Heavy Cruiser can fire down the hex row directly ahead of the ship.

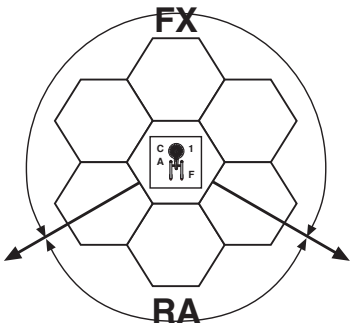
(D2.14) SPECIAL CASES: Some ships have special firing arc restrictions or additions noted directly on their SSD.

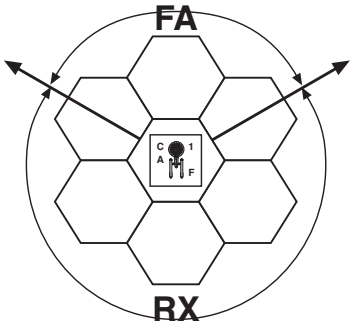
Rule (D2.3) below has some other special firing arcs.

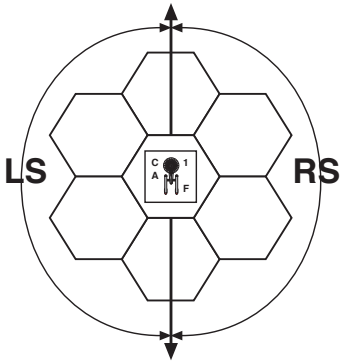
(D2.2) COMBINED FIRING ARCS

For simplicity, some firing arc designations are combined into a shorthand version. Combined designations used in the game are:

FA = FRONT ARC	= RF + LF
FX = FRONT ARC EXPANDED	= L + LF + RF + R
RA = REAR ARC	= LR + RR
RX = REAR ARC EXPANDED	= L + LR + RR + R
RS = RIGHT SIDE	= RF + R + RR
LS = LEFT SIDE	= LF + L + LR
FH = FRONT HEMISPHERE	= See (D2.31)
RH = REAR HEMISPHERE	= See (D2.31)
LP = LEFT PLASMA	= See (D2.34)
RP = RIGHT PLASMA	= See (D2.34)
FP = FRONT PLASMA	= See (D2.34)
AP = AFT PLASMA	= See (D2.36)
LPR = LEFT PLASMA REAR	= See (D2.36)
RPR = RIGHT PLASMA REAR	= See (D2.36)



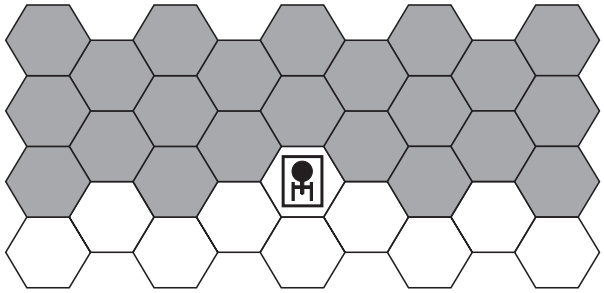




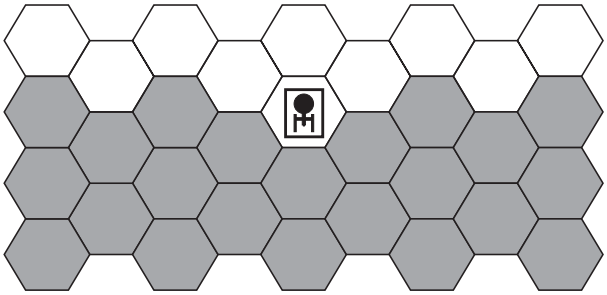
(D2.3) SPECIAL MODIFIED FIRING ARCS

The limitations of the hex grid and its 60° arcs make it impossible to accurately reflect the firing arcs of certain ships. Specially designated arcs must be used.

(D2.31) HEMISPHERIC FIRING ARCS: The FH (front half or front hemisphere) firing arc is that shown in the diagram below.

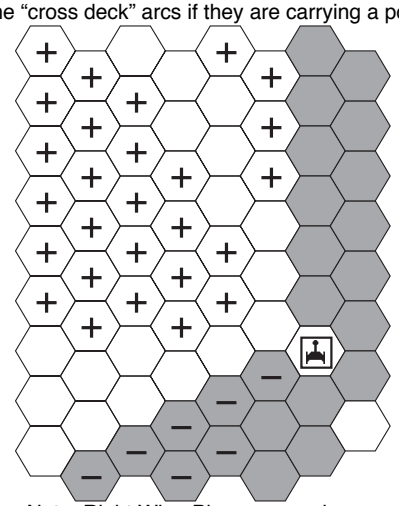


The RH (rear half or rear hemisphere) firing arc is shown below. It is used on the Federation Heavy Cruiser (with rear-phaser refit) and some other ships.



(D2.32) KLINGON WING PHASERS: The wing phasers on certain Klingon ships have a modified firing arc as shown in the illustration below. This illustration is for the right wing phasers on the D7 battlecruiser. This firing arc is used on the D7-, C7-, and D5-class ships (and their variants, and others so noted in their rules).

The hexes marked "+" represent hexes added to the firing arc of this position; they extend in a regular pattern to the full range of the weapon. A "regular pattern" continuing as shown would include all hexes in the #5 shield arc not on the #4 shield boundary. This phaser position is able to fire cross-decks into a part of the left-forward arc, the two gaps representing the blind spots created by the command boom and left engine. The adjustment is included in the BPV. The hexes marked "-" are deleted in this revised firing arc. The right wing phasers CANNOT fire into the adjacent hex in direction 6 because the arc is too narrow to establish a firing solution. The D5G and D5H cannot use the "cross deck" arcs if they are carrying a pod.

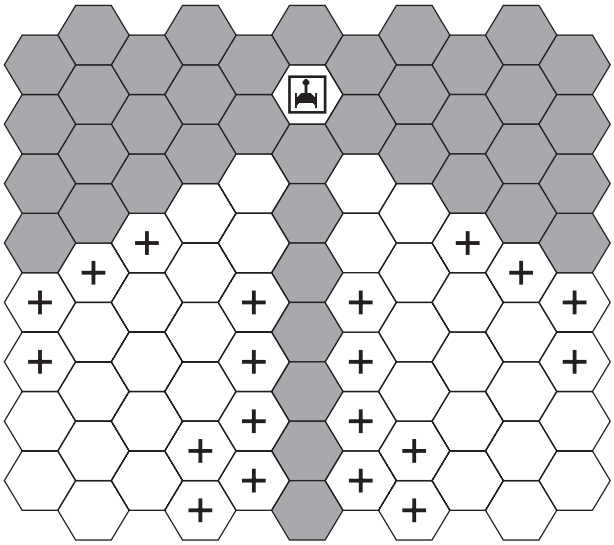


Note: Right Wing Phasers are shown.

(D2.33) KLINGON FORWARD PHASERS: The forward phasers on certain Klingon ships use the firing arcs shown. The shaded boxes are part of their normal firing arc; the hexes marked "+" are used when the revised, "true" firing arcs are used; + hexes extend in a regular pattern to the maximum range of the weapon.

The forward phasers of the C7, DX, D7, D6, D5 (note that a pod will block the rear-firing arc on a D5G or D5H), F6, FX, F5L, F5, E5, E4, E3, G2, Cadet Ship, and Tug (pods will block the rear firing corridor) and all variants thereof, have the firing arcs shown. Other ships use these arcs if designated to do so. Most Klingon SSDs include notes referring to these special arcs.

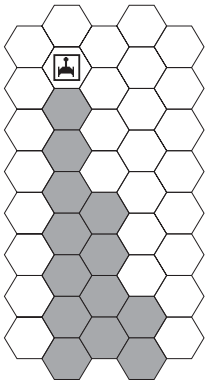
The B10, C9, C8, and Tug (with pods) have the side extensions to the main FX arc, but cannot fire to the rear so they do not have the shaded or + hexes directly behind the ship.



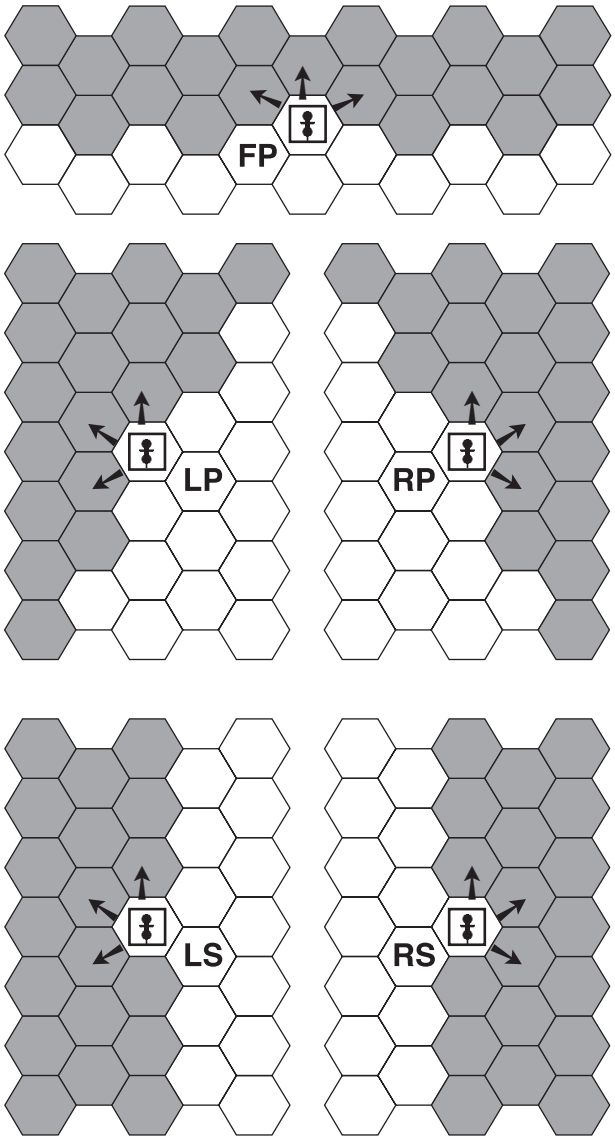
In the case of ships which have their forward phasers divided into two separate banks (FA+L, FA+R, such as F5) the L+FA phasers use the additional hexes on the left side (only), while the FA+R phasers use the additional hexes on the right side (only).

The wing phasers on the C8, C9, and B10 can fire to the rear into the hex row extending directly behind the ship, and into the additional (+) hexes on one side of that row (right wing to right side, left wing to left).

The illustration below shows the rear firing area for the right wing phasers on the B10 or C8/9 and for the right side boom phasers on the F5 (also E5, E4 series).



(D2.34) PLASMA TORPEDO SWIVEL MOUNTS: Certain ships are equipped with swivel mounts for their plasma torpedoes. These ships are able to track targets in a 180° firing arc and to fire their weapons in any of three specified directionsThe illustrations below show these arcs, which are designated LP, FP, and RP (for left, forward, and right plasma arcs).

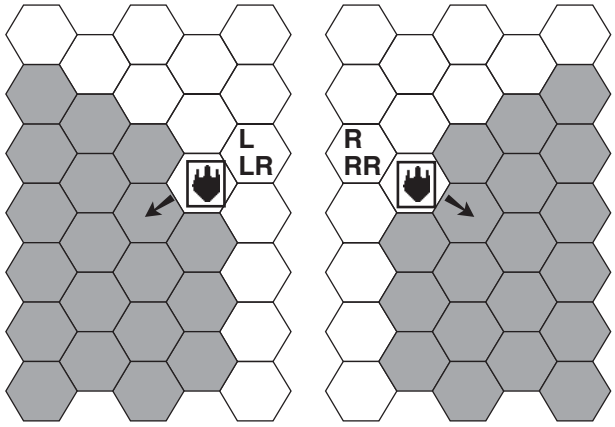


Some ships have small type-F plasma torpedoes in LS or RS mounts, rather than LP or RP. These can track targets in the LS or RS arcs and can be fired in directions 1, 5 or 6 (LS) and 1, 2 or 3 (RS). This is primarily an anti-fighter defense weapon, set in this arc to avoid a blind spot at the tail.

Plasma racks for type-D torpedoes using LS/RS arcs are defined in (FP10.12).

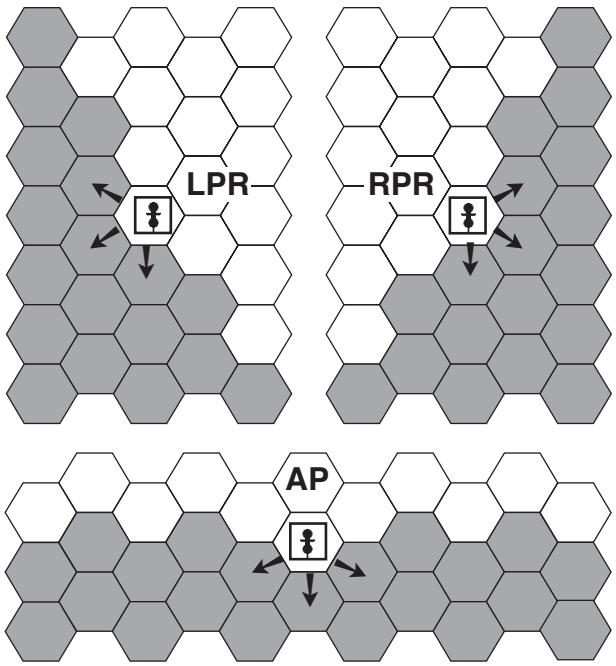
(D2.35) ISC REAR-FIRING PLASMA TORPEDO ARCS: Most of the ships used by the Interstellar Concordium (R13.0) are equipped with rear-firing type-F plasma torpedoes.

The ISC is presented in *Module C2*. If you do not have *Module C2*, this data can be ignored.



(D2.36) GORN BATTLE POD REVERSE SWIVEL PLASMA TORPEDO FIRING ARCS: These arcs are used by the Gorn Heavy Battle Pod and Light Battle Pod carried by their tug and light tactical transport. The position of the pod on the ship requires these unusual and difficult to use arcs.

These pods are in *Advanced Missions* and *Module R4*; this data can be ignored by *Basic Set* users.



Arrows denote launch direction.
Shading denotes tracking arc.

(D3.0) SHIELDS

Shields are the primary defense of starships in this game. Shields will absorb tremendous amounts of punishment, can be operated at various power levels, can be repaired during the scenario, and can be reinforced.

Shuttles and seeking weapons do not use these shield rules (except in special cases noted in certain advanced rules).

(D3.1) DESIGNATIONS OF SHIELDS

(D3.11) NUMBER: Each ship is surrounded by six shields. These are numbered one through six, and each shield faces one of the six surrounding hexes. (For example, if a given starship was in hex 0202 and facing hex 0201, the #1 shield would be facing hex 0201, #2 would be facing 0302, and #5 would be facing 0103.)

Exceptions: Interceptors (K3.4) have two 180° shields. Some X-shuttles (X0.0) have one 360° shield. Certain other units (noted in their respective rules) have other shield arrangements.

(D3.12) POSITION: The shields are fixed in position relative to the ship and cannot be rotated or moved. If a given shield is down, it is down until repaired by damage control (D9.0) or other repair systems. No other shield can be shifted into its position or expanded to cover a larger arc. The #1 shield will always be to the front of the starship.

(D3.13) STATUS: Shields can be "down" [reduced to zero strength by damage (D3.21)] or "dropped" [voluntarily inactivated to facilitate the use of transporters (D3.5)].

(D3.2) SHIELD OPERATION

The shields are represented on SSDs by rectangular groups of boxes surrounding the ship. These are marked "shield #1," etc.

(D3.21) DAMAGE: Each hit on a shield checks off one box. When all boxes on a given shield are checked off, the shield is "down." Damage points scored on a shield that is "down" penetrate to the interior and destroy systems within the ship. These are called "internal hits" or "internal damage points."

EXCEPTION: In the case of ships with armor (D4.12), damage which penetrates the shields must also penetrate the armor before it is considered "internal" damage. Also, General Reinforcement (D3.341) can stop damage that would otherwise hit a down shield.

(D3.22) REINFORCEMENT AND REPAIR: Shields can be reinforced (D3.34) and repaired by Damage Control (D9.2). Shields can also be repaired by Continuous Damage Control (D9.7), but this would probably be a waste of resources. Shields can also be repaired by Repair systems (G17.32), but they cannot be repaired by Emergency Damage Repair (D14.23).

(D3.23) DROPPING SHIELDS: Shields can be dropped by (D3.5), but if this is done, the fact must be announced immediately at the time any shield is dropped.

(D3.24) DETECTING STRENGTH OF SHIELDS: The strength of your shields is generally known to your opponent.

(D3.241) Rule (D4.14) provides that the ship portion of the SSD can be inspected at any time, so the enemy will usually know how many damage points have been scored and how many boxes remain on each shield.

(D3.242) The operating level (off, minimum, standard) of shields will be known; see (D3.31). Any shields that have been dropped will be known; see (D3.54).

(D3.243) If using the optional Tactical Intelligence rule (D17.0), this information will not be known except as provided therein.

(D3.3) ENERGY COST OF SHIELDS

Shields can be operated at "minimum" level or at "full strength." They can also be repaired. All of this requires varying amounts of energy depending on the ship.

NOTE: As with most rules involving energy, the optional Energy Balance due to Damage (D22.0) rules could result in allocated power being cancelled in mid-turn.

(D3.31) STRENGTH OF SHIELDS: Minimum shields are five boxes in each direction. Full strength shields mean that all of the boxes printed on the SSD are active and available to absorb damage. The difference between minimum and standard shields can be detected; the ship must announce its shield level when entering the scenario and whenever it changes. See also Tactical Intelligence (D17.4) Level B.

Reinforcement (D3.34) creates the effect of additional boxes, but these boxes cannot be detected; exception (D17.71).

(D3.32) COST OF OPERATION: The cost to operate a ship's shields is based on its size. The size class of each ship is shown on the MASTER SHIP CHART. The cost to operate shields (per turn) is shown below:

SIZE CLASS	MINIMUM	FULL	TOTAL
1 (Starbases)	= 2	+ 5	= 7
2 (Dreadnoughts)	= 1	+ 3	= 4
3 (Cruisers)	= 1	+ 1	= 2
4 (Destroyers)	= 0.5	+ 0.5	= 1
5 (PFs)	= 0.5	+ 0.5	= 1
6 (Shuttles)	— Not Applicable —		
7 (Seeking weapons)	— Not Applicable —		

Note that all costs are given as Minimum+Full, and full shields cannot be operated without also operating minimum shields. For a ship to have all of the boxes on its SSD active, it pays the number in the "Total" column.

Separated booms and saucers (G12.332) do not pay for shields.

(D3.321) When not using fractional accounting (B3.2), the cost of operation for size class 4 or 5 is 1 for minimum and +0 for full. The ship types in parenthesis are generalizations for purposes of illustration; refer to the MASTER SHIP CHART for the size class of each ship. (For example, the Gorn Heavy Destroyer is in fact a size-3 cruiser.)

(D3.322) Energy for shields can be provided during Energy Allocation or can be reserve power (H7.34). If energy is allocated for shields during Energy Allocation, the shields are presumed to be up from the start of the turn unless declared otherwise by the owning player. [If the shields had been dropped during the previous turn, the 1/4-turn delay (D3.52) could delay their activation.] If energy was provided during allocation but the shields were not activated, the power remains available and the shields may be activated during the Operate Shields Step of any later impulse. Shields activated at minimum level can be raised to standard level with reserve power or with allocated power during the Operate Shields Step of any impulse [but not in response to damage (H7.345)]. Any change in shield level is done during the Operate Shields step of the Impulse Activity Segment of any impulse. Dropping shields is covered in (D3.5).

(D3.33) OPERATION OF MINIMUM SHIELDS: If a given shield has twenty boxes, but is operated at "minimum" level, only five of those boxes are operable and available to absorb damage. If six (or more) hits were scored on the shield in this condition, the first five would destroy the minimum level shield and the remainder would penetrate to become internal hits, even though fifteen undestroyed (but unpowered) shield boxes remained.

(D3.331) The five boxes of the minimum shield are the first to be destroyed and the last to be repaired, even if the shield is at full power. Thus if the shield above was at full power and took two damage points (reducing it to eighteen), and later was operated at minimum power, it would only have three working boxes. It could be reinforced. There is an exception for detached booms and saucers in (G12.333).

(D3.332) Enemy sensors (assuming they have a lock-on) are capable of telling if a ship's shields are at full or minimum levels at a range of

50 hexes; see (D17.4) Level B. See (D17.71) for an optional exception. Also note Q-ships (R1.7) for another exception.

(D3.333) Some smaller ships have only five (or fewer) shield boxes. These ships can pay the minimum shield cost and need not pay the full cost.

(D3.334) Any change in the shields, from full to minimum, or from minimum to full, can only be done once in any eight impulse period, i.e., if dropped to minimum on Impulse #8 they cannot be raised back to full until Impulse #16. A change during Energy Allocation counts Impulse #1 as the first impulse to determine the interval before the next change. Shields can be dropped completely on any impulse irrespective of their setting or when their setting was changed (D3.5) and might be dropped while at minimum setting and raised at full strength.

NOTE: There are relatively few uses for minimum shields, and beginning players can safely ignore this section and simply pay the total cost in (D3.32) for full-strength shields.

(D3.34) REINFORCEMENT: The purpose of reinforcement is to use some of the ship's energy to absorb hits and prevent them from damaging the ship's shields (i.e., to avoid marking out any boxes on the SSD). General reinforcement can be used so long as the shields are operated on at least minimum level, even if no shield boxes remain. Note that ships which never had shields (for example, Andromedans) cannot use either type of shield reinforcement.

See (D3.55) for rules on dropping reinforcement.

(D3.341) GENERAL REINFORCEMENT: Energy supplied for general reinforcement is divided by two, and the result (round fractions down) is the number of general reinforcement points available during that turn. These points reinforce all shields and are eliminated by the first damage points from any direction (but NOT from each direction). For example, if ten units of energy had been provided during the current turn, this would provide five points of general reinforcement. The first five damage points scored on the ship during this turn (regardless of direction) destroy this general reinforcement.

(D3.3411) When resolving damage, any points of operating general reinforcement must be used before using any points of specific reinforcement, and all reinforcement must be used before any SSD boxes are destroyed. This is NOT at the option of either player.

(D3.3412) In the case of certain weapons, such as enveloping plasma torpedoes (FP5.0) and hellbores (E10.0), general reinforcement is subtracted from the weapon's strength before damage is calculated. It is the number of general reinforcement points, not the number of energy points, that is subtracted.

(D3.3413) On any given impulse during any given damage step, if damage from more than one direction strikes a unit with General Shield Reinforcement (GSR), even against the same shield facing, the larger damage total is resolved against the GSR first before any of it is combined into volleys (D4.22). If equal damage is scored from two or more directions, roll a die to determine which is resolved first.

(D3.342) SPECIFIC REINFORCEMENT: Energy supplied for specific reinforcement adds a number of "extra" boxes (equal to the amount of energy applied) to that shield for the duration of the current turn.

(D3.343) DOWN SHIELDS: A shield that is down (or which has been dropped) cannot be reinforced, but general reinforcement would still block fire coming from that direction (for as long as it lasts).

EXAMPLE: A given ship has a front shield consisting of twenty boxes. The ship has allocated ten points of energy to reinforce the front shield and six points to general reinforcement. At a given point in the turn, two damage points are scored on a different shield, eliminating two of the three points of general reinforcement. Later during the turn, fifteen points of damage is scored on the front shield. The first point is stopped by general reinforcement, the next ten by specific reinforcement, and the last four score "permanent" hits (i.e., they check off boxes which could be repaired later) on the shield, reducing it from twenty boxes to sixteen. Note that without the reinforcement, the shield would have been reduced to five boxes.

(D3.344) INDEPENDENCE: General and specific reinforcement are independent of each other. A ship is not required to operate one type in order to operate the other type.

(D3.345) RESERVE POWER can reinforce shields; see (H7.34).

(D3.346) INACTIVE STATUS: As with energy allocated to shields which remain inactive (D3.322), reinforcement energy can be provided by allocation and left inactive. It can then be activated under the Operate Shields Step. Note that such reinforcement energy cannot be raised in response to an attempt by an enemy to transport boarding parties onto the ship, only general shield reinforcement provided by reserve power can be used for that purpose (G8.32).

(D3.347) ANNOUNCEMENT: If a shield is reinforced, and is hit by an amount of damage less than the reinforcement energy, including any reserve power allocated to the shield in response to the damage, only needs to announce that no "shield" damage was scored. This means that if a shield with four points of reinforcement is hit by three points of damage the player only says that shield is undamaged, not that he had four points of reinforcement (or whether the reinforcement was specific or general). If the shield was hit by five points of damage, he would only say that the shield took one point of damage, he does not have to say if the reinforcement was allocated or from reserve power. Note that in some cases General Shield reinforcement must be identified as such, i.e., the resolution of hellbore (E10.0) or enveloping plasma (FP5.0) torpedoes, or if there is no shield.

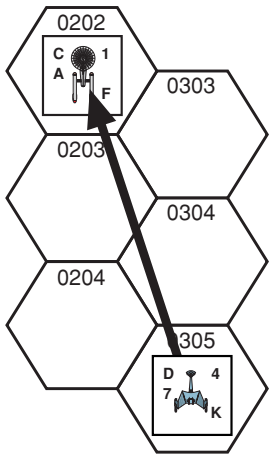
(D3.4) DETERMINING WHICH SHIELD WAS STRUCK BY ENEMY FIRE

(D3.40) GENERAL: It is important to determine which shield has been struck by incoming fire.

(D3.401) SEEKING WEAPONS: In the case of seeking weapons, this is the shield facing the hex that the weapon approached from. If the weapon was launched in the target hex and struck the target before the target moved, determine what shield would have been hit by direct-fire weapons fired by the launching ship (D3.42); this is the shield hit by the seeking weapon. (NOTE: As per the Sequence of Play, the target will have the opportunity to fire at the weapon before it impacts.)

(D3.402) DIRECT-FIRE WEAPONS: For direct-fire weapons, the line of fire must be determined. To do this, simply draw an imaginary line from the center of the target ship's hex to the center of the firing ship's hex, and determine which shield is crossed.

EXAMPLE: A ship in hex 0202 is attacked by a ship in hex 0305. A line from hex 0305 to hex 0202 crosses the hex side separating hex 0202 from hex 0203; therefore, it is the rear shield (#4) which takes the damage.



(D3.41) SHIELD BOUNDARIES: In the event that the line from the firing to target hex travels exactly along a hex side (for example, if the firing ship in the illustration above was in hex 0304), then the shield actually hit is resolved as follows:

A. Examine the impulse chart,

B. Determine which ship is scheduled to move next (including the Order of Precedence), and

C. Move that ship (temporarily, for purposes of this determination only) one hex directly forward.

D. Judge the shield facings (not firing arcs) from this position.

Note specifically that this "move one hex forward" principle is used regardless of what the owning player wanted, intended, or considered moving on the next impulse, that it is used even if it is physically impossible or tactically unwise to actually move forward (planet, minefield, map edge, etc), and that this does not in any way obligate the player to actually move forward on the next moving impulse. Future speed changes have no affect until they take affect. The fact that a given unit has announced it will be moving faster (or slower) has no impact on the determination of who will move on the next impulse during the Direct-Fire Weapons Segment (6D), or any other segment or phases, e.g., shield crackers, transporters, etc., between the announcement and when it takes affect. Previously announced speed changes take effect during the Voluntary Movement Stage (6A2) of the Sequence of Play as part of determining which playing pieces move on the impulse. The intent here is to determine which way the line of sight between the ships is

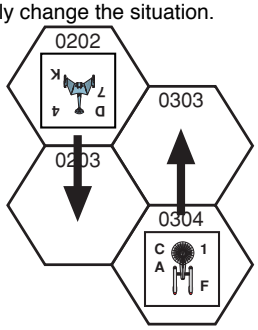
tending to rotate. The ship does not actually move, and the range is based on the actual hexes occupied. Movement that might be caused by terrain (e.g., black holes, nebulas, etc.) or other effects (e.g., tractor rotations, earned Tactical Maneuvers, potential quick reverses, etc.) is ignored.

If both ships are scheduled to move, refer to (D3.43).

If one of both ships are caught in a web, use their effective speed [as adjusted by the web (G10.513)] for purposes of determining the shield hit.

(D3.411) In the case of ships at 0202 and 0304, if the ship at 0304 were to move next, it is presumed to move to hex 0303, and the shield would be determined from this position, and the #3 shield would take the damage. This procedure assumes that the moving unit will move directly forward. It does not create a requirement for the unit to actually move forward when the "real" movement step arrives. It is possible for such a move to completely change the situation.

(D3.412) Consider the case of the two ships at right. Both ships are moving in parallel and opposite directions. If either were moved forward one hex while the other stayed in place, their #6 shields would clearly be facing. But if both are scheduled to move simultaneously, their #5 shields would be facing. In such case, you would consider the shield that would be crossed first, that being #6, because this is the shield that the line of fire is "tending toward."



(D3.42) SHIPS IN THE SAME HEX: If two ships are in the same hex, relative firing directions and shield facings are determined as follows:

1. Determine which ship entered the hex first; see (C1.313) if both entered on the same impulse. Return the other ship to the hex which it previously occupied and judge the firing arcs and shield facings from this position.
2. If (C1.313) produces a draw (both ships entered simultaneously), use (D3.43).

Facing is set when the two ships first enter the hex. The slower ship enters the hex FIRST. The faster ship then enters establishing a relationship of their shields. A subsequent HET by either ship within the hex does not change their relative directions, but will change the facing shield of the ship(s) which HET(s). A subsequent movement in which both ships move simultaneously into a new hex changes nothing (assuming both ships have the same turn modes and speed). The facing of the two ships relative to each other for purposes of fire on that subsequent impulse would still be the same even if a tractor link was released/broken during Impulse Activity. Note that if there are more than two ships in the hex, this is applied to each ship individually. This is also used to determine relative facings of units in a hex to resolve damage from ship explosions within that hex.

In the examples below, ships X and Y are both moving and have the exact same movement precedence under (C1.313). It is NOT impulse 32.

EXAMPLE 1: X in 1009 heading D, Y in 1011 heading A. Both move forward into 1010. The key to this example is a very important, oft neglected part of (D3.43): "Players are advised to resolve the situation with common sense, defined by these principles . . ." Common sense shows that the #1 shields of each ship are facing each other. It does not matter which ship moves "first," they are facing each other.

EXAMPLE 2: X is 1009 heading C, and Y is in 1011 heading F. Both ships turn right and enter 1010. This is actually identical to Example 1. X will be in direction A of Y, and the result of their turns will be their #1 shields facing each other. Similarly, if the two ships slipped into 1010, the #2 shield of X would be facing the #6 shield of Y. Their facings relative to the map would be the same, although different shields are bearing.

EXAMPLE 3: X is in 0910 heading C, and Y is in 1011 heading A. Both move forward into 1010. At Range 2, this gets resolved by (D3.43-A), but at Range Zero, (D3.43-A) and (D3.43-B) don't really work, so it falls through to (D3.43-C). Unless the players previously agreed to use another method, (D3.43-C3) would be used. X would choose whether Y is facing his shield #1 or #2. Y would choose whether X is facing his shield #1 or #6.

Let's say that X chooses shield #2 and Y chooses shield #1 to be facing the other ship. In essence, this means that the players have determined that X is in direction A from Y. If X turns left and Y turns right, so that both move to 1110 heading B, the #3 shield of X will be facing the #6 shield of Y. They will maintain the same map facing as long as they share the same hex and neither changes speed.

EXAMPLE 4: X is in 1011 heading A. Y is in 1111 heading F. X moves forward to 1010, while Y moves forward to 1010. In this case, the relative facing of the two ships was unambiguous before the movement; the #2 shield of X was facing the #6 shield of Y. In this case, the relative facing will be unchanged. The #2 shield of X will be facing the #6 shield of Y. If Y had started in 1111 heading A, and sideslipped into the hex, the situation would be the same, except the #5 shield of Y would be facing X.

EXAMPLE 5: X is a Triaxian, is in 1111 heading A and is currently moving in the Port direction; see (C51.2). Y is retrograding, in 1011 heading C. X sideslips into 1010, while Y turns to 1010 heading D. This is still covered by Example 4. Y is in direction B of X, both before and after the move. The #5 shield of X will be facing the #5 shield of Y.

(D3.43) RESOLUTION OF AMBIGUOUS SITUATIONS: There are certain situations that can arise in complex maneuvers where the determination of which shield has been hit becomes difficult. Players are advised to resolve the situation with common sense, defined by these principles:

A. If both ships are to move simultaneously in their next movement, and this movement still leaves the situation unresolved, judge the shield hit from the situation as if ONLY the target ship had moved.

B. If the next movement would result in a situation unresolvable by "A," or in both of the possible shields being turned away from the firing ship, resolve the situation by judging which of the potential target shields would be crossed first.

C. If no other means of resolution is possible, use one of these methods to apply the damage. (Option #3 is used unless the players have agreed in advance to use a different option.)

1. Divide the effect of the weapon in half and apply half to each of the two shields. If there is an odd number of hit points, allow the firing player to apply the final point to either of the two shields at his option.
2. Toss a coin (or roll a die) to determine which shield is hit.
3. Allow the owning player (of the target ship) to select which shield was hit. The decision is made at the first point either player asks for a determination, and must remain the same from that point until the next impulse. Even if nothing changes, this decision can be changed each impulse. The decision is made separately for each firing ship (even if several ships in one hex are firing on the same ship). The situation is no different than if the two (or more) ships firing on the target were in different hexes along the same spine. (This is used if two ships are linked by a tractor beam at Range 2; and is also used during Impulse #32.)

The method used may be selected by the players by mutual consent, but should be used consistently throughout an entire scenario.

(D3.44) TRANSPORTERS use a slightly different means of determining which shield is facing the line of sight. See (G8.21) for a detailed explanation with examples. Those examples do not necessarily apply in the case of weapons fire.

(D3.5) DROPPING SHIELDS

A unit may drop one or more of its shields. This might be done to allow transporters to be used, as a show of good faith, to conserve power, or for other reasons.

(D3.51) PROCEDURE: A ship can drop one or more of its shields during the Operate Shields Step of the Marine Activity Stage of the Impulse Activity Segment of any impulse. Once dropped, the shield must remain dropped for at least 1/4 turn (i.e., eight impulses). When dropping a shield to facilitate the use of transporters, see (G8.21).

(D3.52) DELAY: A ship that did not allocate power to its shields during Energy Allocation cannot raise them (with reserve power) until 1/4 of a turn has elapsed since the start of the turn (or since the shields were dropped during the prior turn). Shields are raised immediately in the Sequence Of Play when announced, the delay in raising them is from the point where they were dropped, and is not a delay between announcement and raising them. A ship cannot enter a scenario with a shield already dropped unless this is specifically allowed or required by the scenario rules. The ship could, of course, drop a shield on the first impulse or allocate no power for shields.

(D3.53) NUMBER: A ship can drop and raise more than one shield at the same time by this procedure. Shields can be raised and dropped independently; they need not all be dropped or raised at the same time so long as each one is operated within the limits required.

(D3.54) DETECTION: Any unit with a lock-on to a ship can detect the level (inactive, minimum, normal) of all of the shields of that ship and will, therefore, instantly detect any dropped shields. When a shield is dropped, this fact must be announced immediately.
(D3.541) The level of Andromedan PA panels (off, standard, reinforced) is also detected by this procedure; see (D10.26) and (D10.56).
(D3.542) When using the optional Tactical Intelligence rules in (D17.0), this detection is limited to a certain range, but as that range is on the order of 20-100 hexes any range effects can be ignored when not using those rules.
(D3.543) The shield status of cloaked ships cannot be detected (G13.12) without a lock-on; cloaked ships cannot determine the shield status of other ships (G13.517).

(D3.55) REINFORCEMENT: A ship can drop its general or specific reinforcement.
(D3.551) If a shield is dropped, any specific reinforcement to it is also dropped. If raised again on the same turn, the reinforcement is restored unless previously cancelled.
(D3.552) A ship cannot drop its General Reinforcement to only some shields, but must drop all General Reinforcement; see (G8.23). This can be raised again on the same turn as with specific reinforcement.
(D3.553) Dropping and raising of reinforcement is subject to the delays of (D3.51) and (D3.54).

(D3.56) REDUCTION: The strength of a shield can be voluntarily reduced for deception purposes; see (D17.711).

(D3.6) LEAKY SHIELDS RULE *(Optional)*

This rule assumes some damage from each volley will penetrate the shields. This tends to shorten games by causing ships to be destroyed or rendered combat ineffective more quickly. It can also create some interesting situations as key equipment is knocked out.

This rule should be used only to experiment with the effect (or to try something different); it is not intended as a standard rule. It is used in some tournaments to shorten the playing time.

This rule can be used for Andromedans; see (D10.57).

(D3.61) PROCEDURE: Instead of all hits on a given shield being scored against that shield until it is down, allow every fourth (optionally, sixth or tenth) hit to penetrate as an internal damage point. All damage which penetrates a given shield in a given damage step of a given impulse is treated as one volley.

(D3.62) DOWN SHIELDS: If a single volley destroys the shield, the "leaked" damage points (before the shield is destroyed) are combined with the "excess" points (those remaining after the shield is destroyed) into a single volley.

(D3.63) EXAMPLE: 45 points of damage are scored on a 30-point shield. The first 36 points destroy 27 points of the shield and nine points "leak" as internal damage. The next three points destroy the rest of the shield; the six "excess" points are added to the nine "leaked" points for a single fifteen-point volley of internal damage.

(D4.0) DAMAGE ALLOCATION

When damage is scored on a ship, the effect of that damage must be determined. This is done by allocating this damage to certain areas and systems of the ship.

Basically, each point of damage marks off one box on the SSD (a shield box, armor box, or internal system box); destroyed boxes do not function (unless repaired). See (D4.23) for a list of units which use non-standard forms of Damage Allocation.

(D4.1) DETERMINING INTERNAL HITS

Damage points scored must be allotted to the systems on the target ship's SSD by the following procedure:

(D4.11) DETERMINE SHIELD HIT: All volleys are presumed to first strike shields. In recording damage, the first step is to determine which shield was hit (D3.4). Hits scored are recorded against that shield (or bank of PA panels in the case of an Andromedan ship) by the procedures set forth in the shield rules.

(D4.12) ARMOR: Some of the ships included in the game have armor installed in their hulls (specifically: starbases, base stations, battle stations, the Federation CL, the Romulan Warbird/War Eagle, and some others noted in their ship descriptions and/or on their SSDs).

The term "armor" accounts for a variety of defensive systems, not simply thick metal plates. A series of internal energy dampers was used on early ships (before shields) and is treated as armor on those ships. Damage points which penetrate the shields strike the armor (each damage point destroying one armor box); after the armor is destroyed, the damage proceeds normally.

The special starbase damage procedures (R1.1D) account for armor in a slightly different manner.

(D4.13) INTERNAL HITS: Any hits which penetrate the shields and armor are distributed among the interior systems of the ship (causing considerable damage) by the Damage Allocation Procedure (D4.2) which uses the DAMAGE ALLOCATION CHART (D4.21).

See (D4.23) for some exceptions.

(D4.14) DAMAGE RECORDS: The damage records on the ship portion of the SSD are not secret. Any player may examine the ship portion of the SSD of any ship (even a cloaked ship) at any time. This is unlike the Energy Allocation Forms, which ARE secret. The ammunition (drone, PPT, mine, crew, etc.) tracks on the SSD sheet are also secret and need not be revealed to the enemy.

Note that when using (D17.0) Tactical Intelligence this rule is restricted by the data in that rule.

(D4.15) DEFINITION: The terms "damage point" and "hit point" are interchangeable, but "hit" is not strictly interchangeable with either. A weapon can score a hit, which scores several damage points.

(D4.2) DAMAGE ALLOCATION PROCEDURE

This procedure is used to distribute damage points which have penetrated to the interior of the ship. These points are distributed by the DAMAGE ALLOCATION CHART. For NVC see (D6.4).

(D4.21) DAMAGE ALLOCATION CHART (see separate sheet). PFs and interceptors use a special DAC found in (K5.0).

(D4.22) PROCEDURE: First determine the number of damage points which have penetrated the shield (including reinforcement) and armor (if any). Each internal damage point must be distributed individually. All damage points scored against a given shield in a given damage step must be resolved together and are collectively known as a "volley." Note that fire from several directions which all strikes the same shield is still resolved as a single volley, see (D4.34). Fire from several directions that strikes different shields is resolved as separate volleys, i.e., all fire that strikes the #1 shield of a given ship on a given impulse is one volley. Fire on a given impulse that strikes the #1 shield and #2 shield would be resolved as two separate volleys under (D4.3). Some weapons have special damage rules that form exceptions to this rule, examples include: Enveloping Plasma

Torpedoes (resolved separately from other seeking weapons) (FP5.32), Hellbores (resolved as their own volley separate from other direct fire weapons) (E10.44) and PPDs (each individual PPD is resolved as its own separate volley) (E11.332). Other weapons might be added to the game with their own unique damage steps, and if so will be noted as such in their own rules.

(D4.221) For each damage point of the volley, roll two dice and find the resulting number in the "die roll" column of the DAMAGE ALLOCATION CHART (D4.21).

(D4.222) Look across (to the right of) the die roll result, and note the system listed in column "A." Normally, the damage point in question is scored against one box of that type. Players must allocate EACH damage point of a given volley by this procedure. However, if there are no remaining boxes of that type on the target ship's SSD (or never were any), move one column to the right and score the damage point against the system listed in column "B." If there are no undestroyed boxes of the system type listed in column "B," move on to column "C" and so on. See (D4.323) and Annex #7E.

(D4.223) When a particular system is determined to have been hit, the player owning the target ship MUST mark one of the boxes on his ship identified as being that system as destroyed. [Exception: Phasers can only be destroyed from a direction in which they can fire; see (D4.321), which has numerous exceptions of its own.] Thereafter (unless repaired), that system box does not exist and cannot be used.

EXCEPTIONS: Power-generating systems will continue to generate power until the end of the turn (H1.0) on which they are destroyed unless using (D22.0). The restrictions caused by lost control boxes (G2.2) do not apply until the end of the turn. A reduced sensor rating (D6.11) will not be used for a general lock-on until the first of the next turn. Plasma torpedoes can be fired up to eight impulses after the launcher is destroyed (FP1.7).

(D4.23) SPECIAL CASES: Several special and/or non-ship units do not use the Damage Allocation Procedure in (D4.0). The damage procedure for these units is given in their respective rules.

- Fighters and shuttles are described in (J1.32).
- Drones are described in (FD1.54).
- Plasma torpedoes are described in (FP1.6).
- PFs and Interceptors use a modified form of (D4.21) presented in (K5.0).
- Small ground bases, listed in (R1.14) and in (R1.28), use the procedure in (R1.14).
- Mines are destroyed by the procedure in (M8.4).
- Starbases use a modified form of the procedure; see (R1.1D).
- Bases (with some exceptions) have a minor exception in the case of their warp reactors in (H4.32).

Several individual units have special or unique provisions noted in their unit descriptions.

(D4.3) DAMAGE ALLOCATION RESTRICTIONS AND CONDITIONS

Several conditions, restrictions, and special rules are involved in the Damage Allocation Procedure.

(D4.31) BOLD-FACE RESULTS: Note that some of the results on the DAMAGE ALLOCATION CHART (D4.21) are printed in BOLD type. These results are treated specially. A given BOLD result can only be scored ONE time in each volley.

For example, if three damage points were scored, and the allocation die roll was a "12" in each case (unlikely, but possible), then these three damage points would be scored against: auxiliary control, emergency bridge, and scanners. If the three allocation die rolls had all been "9," then the damage points would have been scored against left warp engine, forward hull, and forward hull boxes. Note, however, that the prohibition against scoring a BOLD result twice is against the position of the chart, NOT against the given system. If allocation die rolls of "10" and "4" were obtained, both would be scored against phasers. (This example assumes that the ship in question has the systems in question.)

(D4.32) SPECIAL WEAPONS CONDITIONS

(D4.321) PHASER DIRECTIONAL HITS: In the case of hits against phasers, the hit must be scored against a phaser that is capable of firing in the direction from which the volley came (i.e., through the shield in the case of seeking or enveloping weapons, or of firing at the firing unit in the case of direct-fire weapons). See also (D4.34) which says that if multiple units contribute to the same volley, you resolve them in the order of the amount of damage each scored, largest damage score to lowest, for phaser directional damage purposes. See (C6.5423) for another special case. See (C6.555) for additional damage that is part of the same volley.

ONLY phasers use the "directional" rule for damage allocation.

EXAMPLE: If a Federation heavy cruiser in hex 0619 (facing A) was hit from the direction of hex 0719 and a phaser damage point was called for, the owning player could mark this damage point against either a forward or right phaser, since these could fire in this direction. (The refitted Federation CC has four phasers in the secondary hull with 360° traverse. These phasers could fire in this direction and could be destroyed on this damage point if the target was a CC.) However, the damage point could not be scored against the left phasers (which cannot fire in that direction) since the hull protects these from the blast.

If such a hit cannot be scored against a phaser bearing in that direction, it is then (and only then) scored against the system in the next column of the DAMAGE ALLOCATION CHART (D4.21).

Hits designated as "any weapon" may be scored against phasers regardless of direction.

Internal explosions (shuttle bays, hangars, etc.) ignore phaser directional damage restrictions.

See the following special cases:

- Hellbores (E10.43) and (E10.7).
- Plasmatic Pulsars (E11.332).
- Power absorbers (D10.15).
- Enveloping plasma torpedoes (FP5.32).

(D4.322) MULTIPLE WEAPONS: In the case of ships with several similar weapons, at least some of the damage must be scored on the better weapons. See (G17.52) for hastily repaired systems.

(D4.3221) PHASERS: Each third phaser hit in a given volley must be applied to the best available type, assuming the specific phaser can be hit from that direction. Break the phaser hits into groups of three, and at least one of each group of three must be of the best type. In other words, it is not necessarily the case that phaser hit #3 must be of the best type, but at least one of the first three must be (also, at least one of the second three, at least one of the third three, etc.) See Annex #7E for priority.

No more than one damage point per volley can be scored on a stasis field generator. An "any weapon" hit may be scored on an SFG (and must be if that is the last weapon) even if that SFG had taken damage earlier in the volley.

(D4.3222) TORPEDOES: Ships with several types of a given torpedo must score every third torpedo hit against the most powerful type on the ship in a cumulative record over the entire scenario. See Annex #7E for priority.

(D4.3223) DRONES: Ships with several types of a given heavy weapon destroyed by drone hits must score every third drone hit against the most powerful type on the ship in a cumulative record over the entire scenario. See Annex #7E for priority.

(D4.323) ALTERNATE HIT RESULTS: The result "TORP" on the DAMAGE ALLOCATION CHART is applied to disruptor bolt, photon torpedo, plasma-D racks, fusion beam, TR beam, and plasma torpedo boxes on the SSDs.

The result "DRONE" on the DAC is applied to drone racks, PPDs, web casters, hellbores, ESGs, Andromedan PA panels, and anti-drones. There are some additional exceptions noted in various rules sections. See also Annex #7E.

(D4.324) ANY WEAPON HITS: An "any weapon" hit may be scored on a non-weapon system that is listed to be destroyed on a specific weapon hit (e.g., PA panels, in *Module C2*, are destroyed on drone hits) if the owning player so chooses. He is not required to do so. An "any weapon" hit could be scored on a shuttle bay occupied by a shuttle or fighter, but this isn't required.

An "any weapon" hit can only be taken on a weapon box on the ship portion of the SSD (as per the rules). It cannot be scored on a boarding party, crew unit, deck crew, cloaking device, shuttle damage point, or ammunition (individual probe, drone, PPT, etc.) track.

An "any weapon" hit MUST be scored if there is a system on the ship which can be scored by that damage point, including non-

weapon systems which are destroyed on weapon hits (for example, PA panels destroyed on drone hits). The "voluntary" nature of such action is limited to the fact that an actual weapon could be destroyed instead. If the non-weapon systems are the only qualifying system boxes on the ship, the damage point MUST be scored there. See Annex #7E.

(D4.325) SHUTTLE HITS: A shuttle hit can be scored on a shuttle or fighter box. The exact box chosen is up to the player, but if it contains a shuttle, that shuttle is also destroyed. The owning player can score the damage point on any shuttle box on his ship at his option; exception, see (J1.631) for enemy shuttles on board a ship. See also (D12.0) for chain reaction explosions in a shuttle bay.

(D4.326) SCOUT SENSORS: See (G24.17) for procedure.

(D4.327) STASIS FIELD GENERATORS: See (G16.52).

(D4.33) SPECIAL FUNCTION TRACKS: The last box on the sensor, scanner, and damage control tracks is NEVER marked as destroyed. This represents the residual capability (if any) existing after the system has been effectively destroyed. When marking hits on these tracks, the HIGHEST number on the track (on the top or left end, not necessarily a larger number) is the one that is marked. Players cannot select another (presumably lower) number on that track to mark. The boxes on the various tracks must be destroyed (by the DAC) in order, from best to worst (top to bottom or left to right).

(D4.34) MULTI-SHIP VOLLEYS: It is possible for a volley striking a given shield during a given impulse to include hits scored by two enemy units firing from two slightly different directions. This causes a problem when "phaser" hits (which have a directional restriction) must be resolved. In such a case, first resolve the damage points from the unit which caused the most damage, then from other units in the order of the damage they caused. (If two or more units caused equal damage, toss a coin or roll a die to determine which to resolve first.) The volley is still resolved as a single volley; this procedure governs only the direction of fire for the phaser hit restriction. This procedure is also used if multiple volleys strike a given target from multiple directions on the same impulse. The larger volley will be resolved first. If two (or more) volleys are equal, roll a die to determine which volley struck first.

(D4.35) SPECIFIC DAMAGE: When the DAMAGE ALLOCATION CHART (D4.21) calls for damage to a system not installed on a given ship, go to the next column. Do not disregard the left/right or forward/rear (some older editions use "aft") designations.

(D4.351) HULL HITS: There are three types of hull on ships in *Star Fleet Battles*. All hull boxes on all SSDs are marked as one of these three types.

Forward hull boxes may be designated "F HULL" on the SSD or simply "HULL" with an "F" in one box. These are destroyed by "Forward Hull" hits. Rear hull hits cannot be scored on forward hull boxes.

Rear hull boxes may be marked "R HULL" or "A HULL" or have an "R" in one box. These are destroyed by "Rear Hull" or "Aft Hull" hits. Forward hull hits cannot be scored on rear hull boxes.

Center Hull boxes may be designated "C HULL" on the SSD or simply "HULL" with a "C" in one box. These can be destroyed by forward hull hits and/or by rear hull hits. If a player has only center hull remaining, he must score any F or A hull hits on center hull boxes; he cannot choose to ignore them. There is no separate listing for "C HULL" on the DAC. If you take an "A HULL" damage point, and have no rear hull remaining, it must be scored on C hull if you have any C hull. You can NOT go to the next column on the DAC if there is any C hull remaining on which a hull hit of any kind can be scored. It is entirely legal to score every "F HULL" hit you receive on C hull until you run out of C hull, at which point any subsequent F hull hits must be scored on F hull until you run out of F hull. Or until you either repair some C hull or some F hull. This applies to rear hull hits also.

Most ships have two groups of hull boxes, one marked forward and the other rear. Some ships (e.g., Tholian PC) have only one group; this will be marked C HULL. Some ships (e.g., Gorn CA) have three groups (forward, center, rear).

Some ships (e.g., Kzinti CV) have two groups with the same designation (rear hull in this case) that are in an identical position with respect to forward and rear, but in opposite positions (right vs. left) with respect to longitudinal symmetry. Such groups are considered to be the same; they are drawn in this way only for artistic purposes in making the SSDs as symmetrical as possible.

Most Lyran ships have forward hull in the left side of the ship and rear hull in the right side. Some Lyran ships also have center hull sections which are treated as C HULL.

Many small ships have only C HULL. Some fairly large ships (e.g., most of the Hydrans in *Module C1)* have only C HULL. This is known as "unified hull" and allows the ship to absorb considerable amounts of damage before losing key systems.

Barracks (G28.0) and Repair (G17.0) are also destroyed by hull hits. If a ship has either of the acceptable types of hull and one of the systems listed on Annex #7E, the hit must be scored on one of them.

(D4.352) ENGINE HITS: In some cases the warp engines on an SSD are not specifically marked as "left" or "right." If the ship has two warp engines, they are "left" and "right." If the ship has three warp engines, they are "left," "right," and "center." If the ship has one warp engine, it is "center." Each type of warp engine is distinguished on the DAC; do not disregard the left, right, and center designations.

EXAMPLE: Do not score "left engine" or "right engine" hits on a Federation destroyer on the one engine (which is a center engine) as this will make the ship run out of engines three times as fast as it should. As the Federation DD does not have left or right engines, you proceed to the next column on the DAC.

EXCEPTIONS: Monitors (R1.22) have special warp engine damage rules. Center Warp hits on some bases are scored on warp reactors (H4.32).

(D4.36) CARGO: If undestroyed cargo spaces exist on a ship, excess damage hits may be scored against them at the option of the owning player. Also see (D4.40).

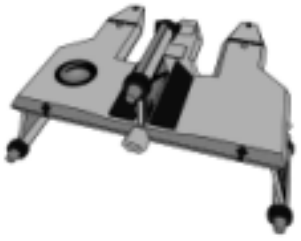
(D4.4) HOW SHIPS ARE DESTROYED

(D4.40) ACT OF DESTRUCTION: When there are no "excess damage" boxes remaining, and one additional excess damage hit is scored on the ship, the ship is destroyed. This final excess damage hit cannot be scored as excess damage so long as there is some other system (only: cargo, repair, mine rack) on which an excess damage hit can be scored by Annex #7E.

(D4.41) REMOVAL FROM PLAY: At the instant of destruction, the ship is removed from the game, all personnel on board are assumed to have perished, and the ship is considered destroyed for victory purposes. See (D4.42) in the case of any seeking weapons controlled by the destroyed ship. See (D21.0) and (G12.0) for optional procedures for possible escape by some of the crew.

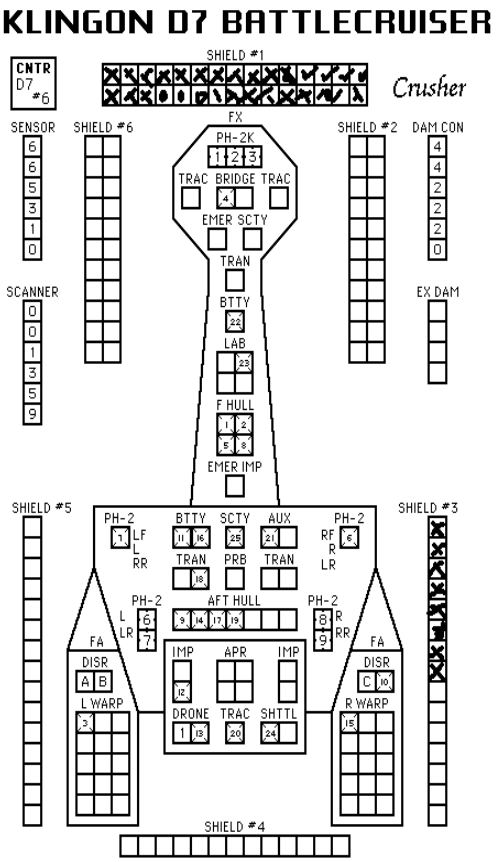
(D4.42) SEEKING WEAPONS CONTROL: When a ship is destroyed, any seeking weapons that it is controlling are released (F3.4). If control cannot be assumed by another unit (or the weapon itself), the weapon will go inert.

(D4.43) EXPLOSIONS: Ships explode at the instant of destruction. See (D5.12).



(D4.5) EXAMPLE OF SHIELD OPERATION AND DAMAGE ALLOCATION

During the Energy Allocation Phase, the captain of a Klingon D7 battlecruiser has placed his shields on full power (using two energy points), reinforced his forward shield (#1) with ten units of power, and put eight units of power into general reinforcement (which will provide four extra shield boxes). As seen on the SSD below, the player is using counter #6 and has named his ship *Crusher*.



During the fourth impulse of the turn, his ship is struck on its #2 shield with two damage points of long-range phaser fire. These two damage points are scored first on the general reinforcement, reducing it from four extra shield points to two. During the sixth impulse, a photon torpedo scores a hit on the #1 shield. As photon torpedoes have eight damage points; two of these are scored on the general reinforcement energy (eliminating general reinforcement) and the other six on the specific reinforcement of the front (#1) shield. This reduces the reinforcement from ten to four. Note that at this point NO shield boxes on the Klingon's SSD are checked off. The battlecruiser is undamaged, having used surplus energy to prevent permanent damage. (The term "permanent" is relative, as even this could be repaired by damage control or by a repair facility such as a starbase.)

During the tenth impulse, however, a Federation light cruiser scores eight damage points (with phasers) on the #3 shield. These damage points are not offset by reinforcement (the only remaining reinforcement energy is on the #1 shield) and are marked off on the #3 shield boxes on the SSD. This reduces the #3 shield from fifteen to seven boxes.

Finally, during the thirteenth impulse, a Federation command cruiser, having braved the fire of the Klingon, has closed to three hexes away and directly ahead. Three out of four photon torpedoes strike home (fortunately for the Klingon, these were not overloaded, and they do only 24 damage points), and the eight phasers of the command cruiser score an additional 38 damage points. These 62 damage points are allocated as follows:

The first four are scored on the reinforcement for the forward shield.

The next 30 are scored on the forward shield, destroying it completely. The Klingon also expends all three batteries to reinforce the shield, absorbing three more damage points. (A volley of this size will destroy the batteries on a D7 due to the shortage of forward hull, so it is better to get some use out of them).

The remaining 25 are scored on interior systems [determined by the DAMAGE ALLOCATION CHART (D4.21)] as follows:

Hit #	Die Roll	System Destroyed
1	6	One forward hull box.
2	7	No cargo on SSD, so one forward hull box.
3	9	One left warp engine box.
4	2	One bridge box.
5	7	No cargo, so one forward hull box.
6	4	One phaser, the Klingon selects the right wing phaser.
7	10	One phaser, the Klingon selects the left wing phaser.
8	7	No cargo, so the last forward hull box is eliminated.
9	8	One rear hull box.
10	11	One disruptor bolt box.
11	7	No cargo or forward hull, so one battery destroyed. The Klingon player selects the battery in the rear hull with a view toward a future boom separation and escape.
12	6	No forward hull, so one impulse engine box destroyed (in the rear, saving the boom impulse engine).
13	3	One drone rack destroyed. This might have caused a chain reaction under (D12.3), but the Klingon player had unloaded this rack to use the drones on scatter packs.
14	8	One rear hull box destroyed.
15	5	One right warp engine box destroyed.
16	7	No cargo or forward hull, one battery destroyed (rear hull, saving the boom battery).
17	8	One rear hull box destroyed.
18	4	The phaser on this line has been hit, so one transporter is hit (rear hull to preserve boom).
19	5	The right warp engine on the line has been hit, so one rear hull.
20	10	The **bold** phaser on this line has been hit, so one tractor beam (rear hull to preserve boom).
21	12	Auxiliary control hit.
22	7	No cargo or forward hull, so the last battery (in the boom) is destroyed.
23	9	The **bold** warp engine on this line has been hit, and there is no forward hull, or cargo, or batteries, so the hit is scored on the lab.
24	7	There is no cargo, forward hull, battery, or center engine, so this hit is scored on an empty shuttle box (the shuttle was used earlier as a scatter-pack).
25	2	The **bold** one-time bridge hit has already been scored, so Flag bridge (scored on one of the security stations, again in the rear hull to preserve the boom).

(D4.6) *BATTLE DAMAGE: CODE RED*

We once published a play aid entitled "*Battle Damage: Code Red*." This play aid is out of print and no longer used.

(D4.7) *CAPTAIN'S MODULE A: BATTLECARDS!*

We once published a play aid entitled "*Captain's Module A: Battlecards!*" This play aid is out of print and no longer used. Parts of it, the Impulse and Command Cards, were incorporated in *Captain's Module A+: Captain's Yeoman*.

(D5.0) SELF-DESTRUCTION *(Advanced)*

In dire circumstances, the captains of starships may deem it necessary to destroy their own ships to prevent their capture. Players should take special care in using this procedure to avoid abuse. Self-destruction is a desperate move designed to avoid capture, not a tactic to be used in attacking an enemy fleet.

(D5.1) DECLARING SELF-DESTRUCTION

A player may only declare self-destruction at the start of a turn after the other players have completed their Energy Allocation Forms. When a player decides to destroy his ship, he simply marks the Energy Allocation Form for that turn "self-destruct;" he is generally not required to fill it out (and there would be no point). He does not make any other entries [see (D5.15) for possible exceptions], and the ship can do nothing except execute the self-destruct order. Self-destruction takes place in the Self-Destruction Phase (#3) of the turn. See (C13.4812) for internally docked units.

(D5.11) POSSIBLE INTERRUPTION: Self-destruction automatically takes place, unless the captain is not in control of his ship; see (G6.41) mutiny and (D7.7) boarding parties.

(D5.12) EXPLOSION: When a ship is destroyed in combat (D4.40), it explodes immediately. The self-destruction procedure is used to determine the extent of the explosion. The force of the explosion is found on Annex #3 Master Ship Chart. The listed explosion strength on the Master Ship Chart is not modified by the existence or non-existence on the unit of any unexpended weapons (including mines or drones).

(D5.13) UNITS USING THIS PROCEDURE: This procedure is used for ships (including PFs and bases). Fighters, seeking weapons, mines, and small ground bases (P2.76) DO NOT explode when destroyed.

(D5.14) ESCAPE: In the case of destruction in combat, units could attempt to escape (D21.4). If a section separates, deduct its explosion strength from the strength of the basic unit.

(D5.15) ENERGY FORM: There are some cases in which the ship could be required to complete its Energy Allocation Form. These include:
(D5.151) If there is a possibility that self-destruction may not be successful (mutiny, etc.). In this case, the EA Form is completed normally.
(D5.152) A computer-controlled ship asks for the speed of the ship. The form must be completed normally so that the question can be answered.
(D5.153) The ship is involved in a tractor auction. In this case, the ship cannot bid more than six points of power or more power than it has.
(D5.154) The player is required to reveal his EA Form (whether it was filled out or not) to show that it is marked "Self-Destruct."

(D5.2) SELF-DESTRUCTION FORCE

When a ship self-destructs, or receives an "excess damage" hit after all excess damage boxes are destroyed, it explodes. The force of this explosion is specified on the Master Ship Chart. The explosion strength of Orion ships includes their nuclear suicide bombs. The explosion value of a ship is not reduced if it drops or has dropped its warp engines. The explosion value of a PF is not reduced if it drops or has dropped its warp booster packs.

Add to this number the explosion strength of any unit docked to or inside the exploding unit, unless that docked unit escapes via (D21.5). See (C13.43), (C13.66), (C13.74), (C13.942), and (G19.3). Do not add the explosion strength of bases to which the exploding ship is docked. This rule does not apply to two ships docked by (C13.9).

(D5.3) MULTIPLE EXPLOSIONS

(D5.31) SHIP IN SAME HEX: If another ship is in the same hex as the exploding ship and is destroyed by the explosion, add its basic explosion strength to the basic explosion strength of the original exploding ship and treat them as a combined explosion (since the ships blew up virtually instantaneously). The shield facing of these other ships may need to be determined; see (D3.42).

This also applies to PFs in the same hex or docked to the exploding ship which did not escape under (D21.0).

(D5.32) SHIP IN DIFFERENT HEX: If a ship in another hex is destroyed by the explosion, count its explosion as a separate case.

(D5.4) APPLICATION OF EXPLOSION STRENGTH

(D5.41) BASIC EXPLOSION STRENGTH: The number determined in rule (D5.2) is the basic explosion strength (BES).

If the BES is nine points or less, the explosion affects only the hex containing the exploding unit(s).

If the BES is ten points or more it affects the hex containing the exploding unit(s) and the six surrounding hexes (radius one).

The BES is applied to every unit within the explosion zone on the shield facing the exploding unit(s).

(D5.42) CLOAKING DEVICE: Ignore cloaking devices in calculating for "self-destruction" blast effects. A cloaked ship receives damage from explosions as if it were not cloaked. The explosion of a cloaked ship is identical to that of an uncloaked ship. See also (G13.52).

(D5.5) SELF-DESTRUCTION RESTRICTIONS AND CONDITIONS

(D5.51) CREW UNITS: In multi-ship scenarios, a ship may not self-destruct unless all but two (or fewer) of its crew units have been killed or evacuated, including (D21.21). This restriction is ignored if there are more enemy than friendly boarding parties (including militia) on board or if there are no other friendly ships remaining in play. This restriction cannot be violated simply for the purpose of destroying nearby enemy units in the resulting explosion or for any other purpose.

Orions can ignore this restriction and self-destruct whenever they are in danger of being captured; see (G15.1) and (D1.52).

(D5.52) ENEMY MARINES: If enemy boarding parties are on board the ship, they may be able to prevent self-destruction. See (D7.7) and (D5.11). See also (D16.84) in *Module M*.

(D5.53) KLINGON SHIPS: If a mutiny has taken place on board the ship, or if the officers have separated the boom section, self-destruction might not be automatically successful. See (G6.41) and (D5.11).

(D5.54) MOVEMENT PLOT: If there is a possibility that self-destruction may not occur, and if pre-plotted movement is planned, a player plotting self-destruction must also plot his next turn's movement in case self-destruction is prevented. See (D5.15).

(D5.55) BLOCKING EXPLOSIONS: Note that planets block the effects of explosions (P2.547) and that webs limit their effects (G10.72). Ships docked to or in a base may be shielded to some extent from explosions or have their explosions partially blocked. See (C13.52), (C13.66), and (C13.74).

(D5.6) CATASTROPHIC DAMAGE

This rule number was originally used for the Catastrophic Damage system, and some references to this number still exist in older editions of the game. This section was completely replaced by (D21.0).

(D6.0) FIRE CONTROL SYSTEMS

Ships (and other units) use their sensors and scanners to detect, identify, and (sometimes) direct weapons to targets. The units in *STAR FLEET BATTLES* use a system functionally similar to twentieth century radar (although operating on different principles because the ship and its target are usually moving faster than light).

Sensors and scanners operate in two modes (active and passive) simultaneously. In their active mode, they broadcast an electronic pulse which will be reflected back to the broadcasting unit by any target. In their passive mode, they search (without active broadcasting) for energy emissions from any potential targets. Computers analyze the returns from both systems to gain information about the target. Certain types of known targets (asteroids, Klingon frigates, plasma torpedoes) have distinctive patterns that can be recognized.

The term "target" is traditionally applied to just about anything detected by naval/starship scanners, whether it is engaged by fire or not.

Electronic warfare is used to attempt to keep the enemy from gaining the full effect of his sensors.

(D6.1) SENSORS

Sensors are the reconnaissance systems (similar to radar) of the unit. They are used to "lock-on" to targets.

(D6.11) LOCK-ON: Units must have a lock-on to their target to fire their weapons with their full effect. Units roll for lock-on in the Sensor Lock-On Phase of each turn, and possibly at other times. If the sensors are damaged during a turn, the unit does not roll again for general lock-on until the Sensor Lock-On Phase of the next turn. However, rolls required during the turn against a specific unit (perhaps one emerging from behind a planet or from a cloak) would use the current sensor rating (which might have been reduced by damage during the turn).

Roll a single die, and if the result is equal to or less than the sensor rating (the highest unchecked number on the sensor track of the SSD), the lock-on is achieved. Note that as almost all ships have a "6" in the first box of their sensor track (or an assumed rating of six), until damaged, sensor lock-on is automatic.

Usually, a ship (or other unit) either has a lock-on to every potential target on the map, or to none of them, but some circumstances (planets, cloaking devices, and others) could result in having a lock-on to some ships but not others. A ship can drop all of its lock-ons (i.e., its general lock-on) whenever it wishes, but cannot drop lock-ons only to selected targets.

(D6.111) Some situations break lock-ons during the course of a turn. These include cloaking devices, planets, and others noted in their rules. If the circumstances under which a lock-on was broken or prevented change during the course of a turn, a new lock-on attempt may be called for by the relevant rules, for example (G13.332) in the case of cloaks or the standard (D6.113) in the case of a target which emerges from behind a planet.

(D6.112) The electronic warfare rules (D6.3) may reduce the "quality" of a lock-on (by reducing weapons effects) but will not break it. Cloaking devices (G13.0), whether or not they break a lock-on, can degrade the effects of various weapons.

(D6.113) A ship will, generally, only make one lock-on die roll per turn. Thus, a ship which failed its die-roll at the first of the turn could not achieve another one by deactivating and then reactivating its fire control. However, if lock-on is lost to a given target due to a terrain effect (e.g., the target went behind a planet), then a new lock-on would be rolled for (against that target only) when the target reappeared, using the current sensor rating (which might have been reduced by damage).

(D6.114) While lock-on is a function of Active Fire Control (D6.6), the two effects are not automatic. A given unit in relation to a given target could be in one of three states:

(D6.1141) Fire control active with a lock-on. This is the normal and most common status.

(D6.1142) Fire control active, but no lock-on to a particular target.

(D6.1143) Fire control inactive. By definition, there will be no lock-ons to anything [exception (G7.97) tractor beams]. In *Basic Set* this will preclude any firing. In *Advanced Missions*, the unit could use passive fire control (D19.0) to fire with reduced effect.

(D6.115) EXAMPLE: At the first of Turn #6, the Federation CA *Intrepid* has a sensor rating of six and a "general lock-on" to the other six ships (and the 27 assorted drones, shuttles, plasma torpedoes, etc. on the map). During Impulse #6, a Romulan KR cloaks, but the *Intrepid* rolls and retains a lock-on. During Impulse #7, a pesky Klingon frigate moves behind the planet Neptune and lock-on is lost. On Impulse #14, a hit-and-run raid destroys the top box on the *Intrepid 's* sensor track, and a lucky disruptor hit on Impulse #20 destroys the second, reducing the *Intrepid's* sensor rating to five. The *Intrepid* does NOT make a new "general lock-on" roll and retains its lock-on to the five ships (no lock-on to the frigate) and 27 other objects in play. As the lock-on equation to the Romulan KR has now improved in its favor (due to the lower sensor rating), the KR demands a new "retain lock-on" roll (G13.332) which the *Intrepid* fails (due to the lower sensor rating). On Impulse #24, the frigate emerges from behind Neptune and the *Intrepid* rolls to get a lock-on, but fails with a die roll of six. At the start on Turn #7, the *Intrepid* makes a roll for a general lock-on during the Sensor Lock-On Phase and rolls a three, gaining a lock-on to everything (including the frigate) except the still-cloaked KR. The *Intrepid* could roll for lock-on to the KR under (G13.333) during the turn in the lock-on step of any impulse.

(D6.12) EFFECTS OF FAILING TO LOCK-ON: If a lock-on is not achieved, then the following restrictions are placed on the ship which failed to achieve lock-on.

These apply to a unit which failed the general lock-on roll at the start of each turn. If the unit lost lock-on to one specific target, then these effects apply only in regard to that target.

(D6.121) The failing unit may not launch seeking weapons; exceptions (F4.0) and (D19.22).

(D6.122) Any seeking weapon on the map controlled by the failing unit and targeted on an object to which the failing unit has no lock-on is released (F3.4).

(D6.123) The firing range to all non-locked targets for other weapons is doubled. This doubling refers to the true range, not the range after being adjusted for scanners (D6.21). If the effective range (after doubling for no lock-on and adding the scanner factor) is beyond the maximum range of the weapon, the weapon cannot fire. See also (D19.23) for passive fire control.

(D6.124) Certain systems cannot be used without a lock-on to their targets. These include: Aegis Fire Control (D13.23), Anti-drones (E5.14), DERFACS (E3.62), Displacement Devices (G18.13), Maulers (E8.15), PPDs (E11.15), Special Sensors (G24.18), Stasis Field Generators (G16.35), Tractor beams (G7.412), Transporters (G8.17) [Exception (G13.421)], UIMs (D6.5), Web Casters (E12.13), and Web Snares (E13.1). See also Annex #7P.

(D6.125) Many systems require a lock-on to function, and a lock-on cannot be achieved without active fire control. See (D6.62).

(D6.126) OVERLOADS: Overloaded direct-fire weapons may be fired at a target without a lock-on even if the effective range is beyond their (overloaded) range limit as long as the true range is within their (overloaded) range limit. Note that feedback for overloaded weapons functions entirely based on true range. This procedure is also used for cloaked ships during the fade-in/out process.

(D6.1261) When firing overloaded weapons at a target without a lock-on at an effective range that is beyond the maximum range for that weapon in overloaded mode (and assuming that the true range to the target is within the maximum range of the weapon), resolve it as follows:

(D6.1262) In the case of "probability of hit" weapons (photons, disruptors, PPDs, and hellbores) use the probability of a hit at the effective range, even if beyond the overload range limit. If a hit is scored, use the damage that would be scored at the true range.

(D6.1263) In the case of "range of effect" weapons (e.g., fusion beams, where the die roll determines the effect rather than a simple hit or miss), determine the non-overloaded damage at the effective range, then increase this damage by the overload rating (50% or 100% as applicable). For example, a fusion beam fired at a true range of two would have an effective range of four. A die roll of three yields two damage points, increased to three points by the overload.

(D6.1264) An overloaded weapon which was fired at feedback range but missed would not result in feedback damage.

(D6.127) MINIMUM RANGE: Some weapons have a minimum range (e.g., photons). These weapons cannot fire if the true range is less

than this minimum, even if the effective range is in excess of the minimum due to sensor or scanner effects.

(D6.13) OTHER SENSOR CONDITIONS
(D6.131) Units which have launched seeking weapons must attempt to achieve a lock-on to their target every turn that they have drones on the map. Failure to achieve a lock-on causes the weapons to be released (F3.4); they could be transferred (F3.5).
(D6.132) Sensors are used to control seeking weapons and to determine the number of seeking weapons that a given ship can control. See (F3.2).
(D6.133) Fighters and shuttles have an assumed sensor rating of six. If crippled (J1.33), this is not reduced. This does not affect the number of weapons controlled; see (J4.24) and (J4.25).
(D6.134) Plasma torpedoes and ATG drones have an assumed sensor rating of six.
(D6.135) Small ground bases have an assumed sensor rating of six.

(D6.14) ACTIVE FIRE CONTROL: This rule was moved to (D6.6) to improve clarity and ease of use.

(D6.15) PASSIVE FIRE CONTROL: This is covered in (D19.0).

(D6.2) SCANNERS

Scanners are the weapons sighting systems of the unit. They are used to aim and fire all direct-fire weapons.

(D6.21) SCANNER ADJUSTMENT: The scanner adjustment factor is the lowest numbered undestroyed box on the scanner track. This is initially "0" for most ships. When computing firing range, always add the scanner adjustment factor to the actual range in hexes [which may be doubled due to failure to achieve sensor lock-on (D6.1)].

EXAMPLE: A Klingon D6 battlecruiser is having a rather difficult time with a Kzinti strike cruiser. The D6 has taken two hits on its sensors (reducing this factor from six to five) and three hits on its scanners (increasing this number from zero to three). The Klingon wishes to fire and rolls for sensor lock-on. He rolls a "6" and does not achieve lock-on. The true range is three hexes. This is doubled to six, and then the scanner adjustment factor of three is added to that, resulting in an effective range of nine. At this range, the phasers of the battlecruiser will do little, if any, damage, although the disruptors will remain effective.
(D6.211) A cloaking device could increase the effective range by five more hexes (i.e., cloak and scanner are cumulative), and electronic warfare could reduce the effectiveness of the weapons.
(D6.212) Anti-drones are handled differently; see (E5.16).
(D6.213) A reduced scanner rating takes effect at the end of the Stage during which the damage occurred.

(D6.22) NON-SHIP UNITS have an assumed scanner rating of zero. This includes fighters, shuttles, seeking weapons, defense satellites, captor mines, small ground bases, and any other unit without an SSD on which a scanner rating is given. Any exceptions in future products will be noted in the relevant rules.

(D6.23) UNAFFECTED SYSTEMS: Some systems are not adjusted by the scanner rating, including tractors, transporters, maulers, and Stasis Field Generators. See Annex #7P.

(D6.3) ELECTRONIC WARFARE
(Some elements are Commander's Level)

These rules simulate the use of Electronic Counter Measures (ECM) and Electronic Counter-Counter Measures (ECCM). These are collectively known as Electronic Warfare (EW).

Some of these rules are used at all times as standard rules to explain such things as terrain effects (P0.0) and small target modifiers (E1.7). These "Standard" EW rules are marked as such in this section. It is not possible to play the game without them although in the simplest scenarios they will not be used.

The Primary difference between the "Standard" and "Commander's" EW systems is that ships can spend energy to gain EW points under the Commander's system and cannot do so under the Standard system. Other differences include:

USED under Standard System: Terrain (P0.0), Wild Weasels (J3.0), Small Target Modifiers (E1.7).

NOT USED under the Standard System: Built-in EW of units (D6.394) and (D6.393), ECCM of ATG drones (FD5.26), ECCM of plasma torpedoes (FP4.3), ECM drones (FD9.0), EW pods (J4.96), EW fighters (R1.F7), SWAC shuttles (J9.1), MRS shuttles (J8.4), any EW generated by a ship using power (D6.31).

Basically, ECM is an advanced form of jamming intended to prevent the enemy from targeting your ship, or at least reducing the effect of his fire. The broadcasting ship is sending false data signals, disguised to appear as the returning sensor emissions of the enemy ship or as passive emissions of a target. The sensor operator in the enemy ship is confronted with not only a great deal of static, but with dozens of false targets (where none actually exists) which are indistinguishable from the real target. (One twentieth century USAF pilot de-scribed it as "playing 'Space Invaders' on the enemy radar screen.")

ECCM is the application of additional power or technology to "burn through" this jamming and detect the actual target. The relative success of ECM and ECCM changes rapidly from one instant to the next. A target that is perfectly clear on the scanners may suddenly be obscured by static; another target hidden by static may suddenly become clearly distinguishable.

In *STAR FLEET BATTLES*, ECM and ECCM cannot "break" a "lock-on," but they can dramatically reduce the effectiveness of that lock-on. Even with electronic warfare, a unit must still have a lock-on to fire without penalty or guide seeking weapons, and even with a lock-on must still roll for a near miss (D6.36) by seeking weapons.

(D6.31) GENERAL ELECTRONIC WARFARE: EW points come from a variety of sources, and the total number of points any given unit has may change from time to time.
(D6.310) GENERATION: Ships may use energy for ECM or ECCM. The total amount of energy put into (allocated for) ECM and ECCM combined cannot exceed the highest unchecked number on the sensor track (usually six). No more than this number of units of power can be allocated for EW during an Energy Allocation Phase. Additional power may be applied using reserve power during the turn; see (D6.312). Energy must be designated for use as ECM or ECCM at the time it is allocated (or when reserve power is committed).
(D6.311) SCOUTS: Ships with scout functions (G24.0) may use more power for EW. See the specific rules on this case.
(D6.312) RESERVE POWER (H7.2) may be used to increase ECM or ECCM strength during the Fire Decision Step of any impulse, but not in excess of the limits stated for total power applied. In such cases, the EW calculations must be made again at the time such power is announced.

A player could drop some active EW points (ECM or ECCM) and use reserve power to activate EW points of the other type. All ships have a number of "circuits" for EW equal to their sensor rating (which is usually six). Each can be used for ECM or ECCM, but not both at the same time. A given circuit can be changed from ECM to ECCM no more than once every quarter-turn, even if this creates a restriction which extends into the next turn. Since power allocated to EW cannot exceed the sensor rating (which is equal to the number of circuits), changing a circuit will require the use of reserve power to create a new EW point of the other type. If reserve power is used in the last eight impulses to change a circuit between ECM and ECCM, that circuit is committed to the new mode into the first impulses of the next turn. If you want to use it for the other type, you can allocate power specifically to that type of EW, which won't become effective until the eight-impulse restriction has passed. The EW points bought with reserve power on the last turn will be lost at the end of that turn, however. You could allocate power to the same type of EW as the reserve power was used for, in which case it would be effective immediately, then switch with reserve power after the eight impulse delay.

See (D6.315) and (D6.316) in this section, (D10.73) for Andromedans, and (H7.33) for reserve power.
(D6.313) RANGE: The power of ECCM is not reduced over its effective range, which is 100 hexes (150 hexes for scouts). ECM has no range limit.
(D6.314) SOURCES: Electronic warfare points (ECM and ECCM) can come from any or all of the following five sources:

(D6.3141) GENERATED: Points received for power expended by the ship, known as "self-generated" points. The total of both

ECM and ECCM cannot exceed the highest unchecked box on the sensor track (usually six). Note that the total is six; a ship cannot generate six ECM and six ECCM (or six ECM and one ECCM for that matter) at the same time. Fighter EW pods are not included in this section; see (J4.96).

(D6.3142) BUILT-IN: Points built into the unit and received automatically. These are listed in (D6.393) and (D6.394) and are not included in any other limit.

[Exception: PF swing points (K1.72) and Interceptor swing points (K3.72) ARE included in the #1 limit above. The Orion PF "Stealth" ECM points are not under (D6.3141).]

(D6.3143) NATURAL SOURCES: Points received from natural causes, such as asteroids (P3.0), Erratic Maneuvering (C10.0), atmospheres (P2.54), small target modifiers (E1.7), and certain terrain types (P0.0).

(D6.3144) RECEIVED FROM LENDING: This is limited to six ECM and six ECCM points from all sources (D6.392) including scouts (G24.21), a scout's own self-protection jamming (G24.28), SWAC (J9.1) or MRS shuttles (J8.4), Wild Weasels (J3.23), ECM drones (FD9.0), and EW fighters (R1.F7). See (J4.9) for additional restrictions on fighters. A unit can generate six points of EW and receive (from a scout) six points of ECM AND six points of ECCM.

(D6.3145) RECEIVED FROM OFFENSIVE ECM: Under rule (G24.219), a unit can receive (unwelcome and unwanted) "negative ECM" from one enemy scout. This is limited to six ECM points. This ECM is factored into the general EW equation between firing and target units.

(D6.3146) FRIENDLY UNITS ignore (D6.3141), (D6.3142), and (D6.3144), but not (D6.3143) or (D6.3145).

(D6.315) ADJUSTMENT: The power used by each unit for electronic warfare can be adjusted each impulse as part of the Fire Decision Step of the Fire Allocation Stage of the Impulse Activity Segment. This is done simultaneously by all players and is simultaneous with the decision on what weapons to fire and at what targets. Use written orders (or Command Cards) and expose them simultaneously (B2.4) if necessary. See (B2.3-6D).

Certain involuntary adjustments, such as terrain, and certain secondary affects resulting in adjustments, such as starting or stopping EM, are done at other points as covered in their respective rules.

The changed EW status takes effect immediately for the current Direct Fire Weapons Step and remains in effect (unless changed) for the remainder of the turn. Changes in the EW status during the Fire Decision Step can include:

A. Dropping some or all of the EW points. These dropped points are then irrevocably lost [Exception: Andromedans (D10.73)]. Note that a ship may have been forced to drop some EW points by (D22.0) or may be doing so in order to switch some circuits (D6.312) from ECM to ECCM or vice versa using reserve power (or inactive power if Andro).

B. Increasing ECM or ECCM with reserve power; see (H7.33) and (D6.312). So-called "swing points" which can be changed from ECM to ECCM or vice versa are declared in the Sensor Lock-on Phase (#4) at the start of a turn (or at the instant of launch in the case of MRS, SWAC, and PFs) and cannot be changed during the turn.

C. An Andromedan ship could, under (D10.73), reactivate some of the inactive EW points in conjunction with dropping others under A above.

Note that because of the timing of this EW status adjustment, a player effectively cannot increase ECM in response to enemy increases in ECCM (or vice versa) before weapons are fired, nor can he cancel weapon fire after learning the new enemy ECM level. For example, a ship cannot allocate extra power for ECM after an enemy announces that weapons are firing because the EW adjustment decision is made before fire is announced.

(D6.316) As the unit has a limit on the total EW points, it may drop some or all of its self-generated (category #1) ECM to use additional ECCM and vice versa. This may be done during any impulse (D6.315), but no one circuit (D6.312) can be changed more than once in eight consecutive impulses, even if this creates a restriction which extends into the next turn. See (D10.73) for Andromedans.

EXAMPLE: If ECM is dropped on Impulse #7 so that ECCM can be increased, and later on Impulse #15 ECCM is dropped so that ECM can be increased, the ECM points dropped in Impulse #7 are not restored, but would have to be replaced with reserve power. Exception: Andromedans (D10.73).

(D6.317) LENDING: Various units have the capability to lend EW to other units; see (D6.3144). Most units (Scouts, MRS shuttles, SWAC shuttles, EW fighters, etc.) which lend EW to another unit are required to have a lock-on (D6.11) to the receiving unit.

Wild Weasels (J3.0) do not require a formal lock-on in order to "lend" their ECM to their launching ship. They are assumed to have such a lock-on.

ECM drones (FD9.0) do not require a lock-on in order to "lend" their ECM to their protected ship, but are assumed to have a lock-on.

(D6.3171) Subject to the additional restrictions in the specific rules of the lending unit, a unit which is receiving more than its limits of "lent" ECM or ECCM (D6.3144) may choose which ECM or ECCM points, and which lending sources, it will use. The remaining surplus points are ignored.

Exception: A WW (J3.0) will force the temporary suspension of other lent ECM points, but these will be restored to the receiving unit once the effects of the wild weasel have ended.

Exception: Offensive Electronic Warfare points (G24.219) cannot be ignored by the receiving unit (the target) voluntarily; they are not within the (D6.3144) limits.

(D6.3172) Unless otherwise required in their specific rules (such as an ECM drone losing lock-on to a cloaked target) or unless voluntarily dropped (if permitted), lending units from (D6.3144) will continue to lend their ECM or ECCM points to the receiving unit, even if the receiving unit, for whatever reason is unable to currently use them (e.g., the receiving unit moves out of range, the lending unit doesn't have a lock-on to the receiving unit, the receiving unit cloaks or launches a wild weasel, etc.). This does not apply to surplus points ignored under (D6.3171).

(D6.32) ANNOUNCEMENT (Standard): In the sensor lock-on segment of each turn, players announce their ECM and ECCM strength (the number of energy points expended). A unit must use all allocated EW points at the time of allocation. The only exception is the "undesignated" points allocated for use with scout channels.

This ECM and ECCM strength may change during the turn at various times for various reasons provided in the rules. Any change in ECM status is announced; (D6.315). The amount of ECCM a given unit is generating has to be announced if it has active fire control. You do not have to announce ECCM if your fire control is inactive since the ECCM points are themselves inactive until the fire control is activated. Natural or built-in ECCM does not have to be announced, unless it exceeds what the unit is allowed to generate. If the unit does not have active fire control, the amount of ECCM it is generating is announced only if it activates its fire control and is revealed the instant the fire control is activated, but gains no benefit until the fire control is fully active.

Under the Standard system, the EW of ships must be calculated, although as there are fewer sources the calculation will be simpler.

(D6.33) INTEGRATED EW EXAMPLE: There are many EW functions taking place during the turn.

TURN #4

ENERGY ALLOCATION: A dreadnought pays four points of energy for four ECCM points. A cruiser pays six points of energy to buy two points of ECCM and four of ECM. A carrier pays six points for six ECM points. A destroyer pays two points of energy to buy two points of ECM. A scout pays 22 points for six ECM and sixteen undesignated EW points. A frigate pays for two ECCM points. A police corvette pays for two ECM points.

SENSOR LOCK-ON PHASE: The ships announce their EW status. The scout announces that it is using its own six points of ECM plus six of its undesignated EW points for its own defense; using the extra six requires it to use a channel for self-protection. The scout announces and begins lending two ECCM points to the carrier, using two of his unallocated EW points and one of his channels. The fighter squadron (on the map from the previous turn) is noted as still receiving EW support from its own EW fighter (which is using its two internal EWPs to generate four ECCM and its two external EWPs to generate four ECM). It is assumed that the EW fighter remains within range of the fighters for the ensuing example. The carrier announces that it is generating four points for its fighters (even though they are not accepting it) and two for itself. The police corvette has its fire control in passive mode and has no lock-ons to anyone.

IMPULSE #6
LOCK-ON STAGE: The scout, which has a lock-on to the destroyer, uses six of its undesignated EW points and a powered but unused channel to begin lending six ECM points to the destroyer.

IMPULSE #7
VOLUNTARY MOVEMENT SEGMENT: The frigate, which fears attack, begins moving through the asteroid field. As it does so, it gains various amounts of ECM from the asteroid hexes between itself and any potential attacker. Since the asteroid field is irregular and the potential attackers are moving in various directions, it would be impossible to give a detailed example, but suffice it to say that any potential attacker can calculate the EW effect at the point of firing. (Of course, the frigate would also have an ECM penalty if firing at those attackers.)
SEEKING WEAPONS STAGE: The cruiser launches an ECM drone to protect itself.
SHUTTLE AND PF FUNCTIONS STAGE: The DN launches its MRS.

IMPULSE #8
VOLUNTARY MOVEMENT STAGE: Finding the battle intensity increasing, the fighters turn and head toward their carrier.
SEEKING WEAPONS STAGE: Desperately trying to escape a pursuing force, the EWF drops the two external EWPs to gain speed; the EW status of the fighter squadron is adjusted (and not favorably) immediately. The EWF had set up its EWPs in this manner so that the ECCM would remain effective while the drones pursued the target.

IMPULSE #10
VOLUNTARY MOVEMENT: The frigate moves closer to an admin shuttle it had been intending to kill.
SEEKING WEAPONS STAGE: The admin shuttle, which was a scatter-pack, releases six drones targeted on the frigate.
ACTIVITY SEGMENT FINAL FUNCTIONS STAGE: The frigate declares emergency deceleration.
FIRE ALLOCATION STAGE: The destroyer wants to fire at the cruiser before its ECM drone becomes active on Impulse #11. The destroyer secretly commits two points of reserve power to ECCM in order to reduce the ECM of the cruiser and gain a better shot (only a +1 shift instead of +2), and commits to fire all four photons at the cruiser. However, the cruiser had secretly designated to drop its two points of ECCM and use two points of reserve power to increase its ECM to six, retaining the +2 shift.
DIRECT-FIRE WEAPONS STAGE: The destroyer's photons, fired with the +2 shift on the die roll, all miss the cruiser.

IMPULSE #11
LOCK-ON STAGE: The police corvette, which turned its fire control off on Impulse #11 of the previous turn, gains two points of ECM from the passive fire control benefit. The ECM drone launched by the cruiser on Impulse #7 starts broadcasting ECM points.
DIRECT-FIRE WEAPONS FIRE STAGE: The dreadnought targets the ECM drone at fifteen hexes range with a concentrated phaser barrage, killing it. [The DN had to overcome the small target modifier and the drone's own ECM; it used the four points of ECCM it generated during Energy Allocation plus a point of reserve power]. The cruiser loses the effect of the drone's ECM at the end of the Direct-Fire Weapons Segment.

IMPULSE #12
FINAL MOVEMENT ACTIONS STAGE: The frigate comes to a halt with the emergency deceleration it declared on Impulse #10.
SHUTTLE AND PF FUNCTION STAGE: The frigate, now at speed zero, launches a wild weasel at a speed of five in order to exit the hex of the FF before seeking weapons hit it, gaining six points of ECM and shutting down his active fire control system. This causes him to lose (temporarily) the two ECCM points as they cannot be used without active fire control.

IMPULSE #14
VOLUNTARY MOVEMENT STAGE: Six drones enter the hex of the WW, destroying it. The collateral damage destroys three other drones in the hex en route to another target. Five more drones are "in flight" and targeted on the frigate; they were distracted by the WW and are now targeted on the explosion hex.
INITIAL STAGE OF IMPULSE ACTIVITY SEGMENT: The frigate activates his fire control. Because the WW is in the explosion period, this does not void it, but the active fire control won't be effective until Impulse #18.

IMPULSE #15
VOLUNTARY MOVEMENT STAGE: Three of the five drones pursuing the WW reach the explosion hex and detonate, causing more collateral damage (although there is nothing there to damage).
LOCK-ON STAGE: The dreadnought's MRS shuttle, launched on Impulse #7, begins lending two ECM and four ECCM points to the dreadnought in Step (6B8) having been released from the (J1.343) restrictions. The fighter squadron, now within range of its carrier, announces a change; they will begin accepting lent EW from the carrier rather than their EWF (they can only accept this from one source at a time) because the carrier can offer four ECM (6 with reserve power) while the EWF can offer nothing. Each fighter, of course, also has its own two points of ECM so they can only accept four of the points from the carrier.
DIRECT-FIRE WEAPONS FIRE STAGE: The dreadnought's MRS is destroyed by a disruptor narrow salvo; the dreadnought loses the effect of the ECM it had been receiving at the end of the Direct Fire Segment. The frigate fires two phasers on passive fire control to kill a fighter that is facing a down shield. This voids the WW.

IMPULSE #16
VOLUNTARY MOVEMENT SEGMENT: The last two drones, ignoring the voided WW, begin pursuing the frigate.
FINAL MOVEMENT ACTIONS STAGE: The destroyer announces that it is beginning Erratic Maneuvers.
DIRECT FIRE WEAPONS FIRE STAGE: The cruiser fires at the destroyer, which does not receive the benefit of its Erratic Maneuvers.
POST COMBAT SEGMENT: The destroyer receives the benefit of its Erratic Maneuvers.

IMPULSE #17
VOLUNTARY MOVEMENT STAGE: The destroyer moves into a hex behind the planet from the scout; the scout loses lock-on, and the ECM being lent is lost to the destroyer. The fighters, sensing the tide of battle turning in their favor, turn toward the enemy.
DIRECT-FIRE WEAPONS FIRE STAGE: The frigate fires on the pursuing drones, but because fire control still is not fully active, he scores few hits.

IMPULSE #18
VOLUNTARY MOVEMENT STAGE: Drones targeted on two of the fighters enter their hex in a head-on approach. Drones targeted on the frigate strike it on the #3 shield.
DAMAGE DURING MOVEMENT STAGE: The drone hits on the two fighters are resolved. The fighters, still receiving the benefit of the carrier's ECM, survive (barely) when the EW shift causes the drones to do less damage. The drone hits on the frigate are resolved, collapsing the #3 shield and causing some internal damage.
INITIAL STAGE OF IMPULSE ACTIVITY SEGMENT: The frigate's fire control is now fully active, and it has regained the two points of ECCM, but it has no working weapons left available to fire.

IMPULSE #19
VOLUNTARY MOVEMENT STAGE: The fighters, having moved beyond EW lending range of their carrier, lose this benefit immediately. They would like to begin receiving ECCM from their EWF, but cannot do so because they cannot change their one source of lent EW until Impulse #23 (i.e., eight impulses after the previous change). Drones targeted on two more of the fighters enter their hex in a head-on approach.
DAMAGE DURING MOVEMENT STAGE: The drone hits on the two fighters are resolved. The fighters do not have the benefit of the carrier's ECM and are destroyed.

IMPULSE #21
SEEKING WEAPON STAGE: The surviving fighters launch drones.

IMPULSE #23

VOLUNTARY MOVEMENT STAGE: The cruiser, with six ECM active, turns to enter the hex of the oncoming drones. This was done because the fighters will gain the ECCM benefits of the EWF later in this impulse. By moving to allow his ship to be hit now, rather than on the next impulse, the cruiser captain has mitigated the damage to some extent by arranging a favorable EW shift. (It can be presumed that the cruiser had no way to avoid being hit, and that it used its phasers and tractors during Impulse #22 to stop at least some of the drones.)

DAMAGE DURING MOVEMENT STAGE: The drone hits on the cruiser are resolved. Because the cruiser had six ECM and the fighters had only their two inherent points of ECCM, the shift was two (square root of four) and the damage is reduced to some extent.

IMPULSE #24

VOLUNTARY MOVEMENT STAGE: The destroyer moves out from behind the planet, the scout regains lock-on, and the original ECM points lent to the destroyer are regained. This would not have been true if the specific sensor channel had been destroyed, blinded, or shut down.

(D6.34) CALCULATION OF EFFECT (Standard): To determine the net effect of ECM and ECCM, make the following calculation:

STEP 1: Determine the ECM strength of the target unit (D6.314). This may be adjusted (usually increased) by various factors, including ECM drones (FD9.0), SWAC shuttles (J9.0), scouts (G24.0), or other means. Note that some units have an additional ECM strength built-in due to their design; see ship descriptions. Also note that certain objects, such as terrain (P0.0), can produce an ECM effect.

STEP 2: Determine the ECCM strength of the firing unit. In the case of seeking weapons, this is the ECCM strength of the unit guiding the seeking weapon and/or the ECCM strength of the weapon itself (if any). Note that some units have an automatic built-in ECCM strength in addition to any power they apply. The ECCM of the guiding unit, plus any ECCM from the weapon itself, is used in determining the effect of this chart. The guiding unit cannot provide ECM to the weapons.

STEP 3: Subtract the ECCM strength of the firing unit from the ECM strength of the target unit.

STEP 4: If the result of #3 is a negative number or zero (the ECCM is stronger than or as strong as the ECM), there is no electronic warfare effect and the rest of the calculation is skipped. EXCEPTIONS: Negative EW modifiers are used in the case of cloaks (G13.33), elite crews (G21.211).

STEP 5: If the result of #3 is a positive number, use it to determine the "net ECM shift" from the chart below:

Net ECM Strength (result from #3)	Net ECM Shift
1–3	1
4–8	2
9–15	3
16–24	4
25–35	5
36–48	6
49–63	7
64–80	8
81–99	9
100–120	10
121–143	11
144–168	12
169–195	13
196–224	14

Players may recognize this calculation as taking the square root and dropping all fractions. While the chart only goes to 224 points, the effect goes to infinity and higher levels can be calculated if needed, but it will be virtually impossible to exceed the chart.

(D6.35) EFFECT ON DIRECT-FIRE WEAPONS: In the case of direct-fire weapons (E0.0), the effect of ECM/ECCM is determined at the instant of firing. Electronic warfare produces a die roll shift; see (E1.8).

(D6.36) EFFECT ON SEEKING WEAPONS: In the case of seeking weapons (F0.0), the effect of ECM/ECCM is determined when the weapon reaches its target. The ECM shift is used to adjust the die roll on the table below:

(D6.361) PROXIMITY OF DETONATION TABLE

Die Roll	Effect on Seeking Weapon
1–6	Warhead 100% strength
7–8	Warhead 50% strength
9–10	Warhead 25% strength
11+	Warhead 0% strength

(D6.362) PROCEDURE: Whenever a seeking weapon enters the hex of its target, roll a single die to determine the proximity of detonation (i.e., the effect of the warhead). If there are any ECM shifts, they are added to this die roll. A result over six means, in effect, that the weapon exploded at some distance from the ship rather than against its shields. Note that if there is no ECM shift, or if players are not using the ECM rules, the only possible result is a normal (100%) detonation.

EXAMPLE: A drone, fired by a Kzinti ship, has reached the hex of its target, a Klingon D7. The net ECM shift at the time of arrival is +2. (The Klingon is using a lot of power for ECM.) The Kzinti player rolls a die; the result is "5." The ECM shift is added, yielding a "7" and indicating that the drone does only 50% of the normal damage.

(D6.363) This system is used for all seeking weapons, including drones, suicide shuttles, and plasma torpedoes. Even when using this system, a seeking weapon will not damage any ship other than its target.

(D6.364) If the target is cloaked, use the table in (G13.37) instead of the Proximity of Detonation Table.

(D6.37) OTHER SYSTEMS AFFECTED (Standard): Certain non-weapons systems also require a positive lock-on, and certain weapons do not operate in a manner that is suitable for (D6.35) or (D6.36). Note that after a tractor beam is attached, a lock-on (by the tractoring and to the tractored unit) is automatic (G7.412). See also (D6.62).

(D6.371) This procedure is used for the following systems: tractor beams, transporters, and stasis field generators. See Annex #7P for an updated list.

(D6.372) PROCEDURE: For each individual action (i.e., for each of three transporters used on the same impulse), roll a single die and add the net ECM shift to the result. If the total is more than six, the lock-on is not strong enough and the system cannot be used. If an unsuccessful attempt is made, another attempt with that same specific system box cannot be made on the same turn or within eight impulses (i.e., the standard rate of operations rule for most systems). Thus, you could make as many transporter attempts as you have transporters, assuming all were powered, but each could only make one attempt. Any energy allocated to a failed attempt is lost, and that item cannot be operated again on that turn (as per rules).

EXAMPLE: A Klingon ship wants to use its stasis field generator to place a Federation ship in stasis. At the instant the attempt is made, the Federation ship has a net ECM shift of +2. The Klingon player rolls a die and gets a result of "5" to which the shift is added for a result of "7." As this is greater than six, the SFG cannot be used at this time, but another attempt (with the same SFG) could be made later in the turn since each SFG can generate three fields at a time (each field making one attempt per turn). If the Klingon ship has two or more SFGs, it could also make another attempt (on a later impulse) with the other SFG. Generator/fields which make a failed attempt cannot be reused until the next turn (i.e., the normal operations rate). Any EW change will not affect an existing SFG field.

(D6.373) See (D6.3146) for actions between friendly units.

(D6.38) SYSTEMS NOT AFFECTED: The following systems are not affected by electronic warfare: anti-drones, labs identifying drones, type-VI (dogfight) drones, all explosive mines (detection of targets is not effected by EW; captor mines firing at targets are affected by EW), sensor lock-on, scanner ratings, ship explosions, most monsters (D6.397), and expanding sphere generators.

NOTE: Cloaks have some aspects of EW, but their interaction with the above is defined by the cloak rules.

(D6.39) OTHER EFFECTS OF EW

(D6.391) WILD UNITS: Wild weasels (J3.23), wild PF scouts (K1.756), and wild SWACS (J9.2) affect seeking weapons independently of ECM/ECCM. The ECM points produced by WWs or wild SWACs do not protect the shuttle itself.

(D6.392) SCOUTS: Scouts (G24.0) may "loan" ECM or ECCM to another ship (G24.21). No more than six units of ECM and no more than six units of ECCM may be received (D6.3144) by any unit from all outside lending sources, such as scouts, MRS or SWAC shuttles, ECM drones, or wild weasels (J3.23). ECM points from natural sources (D6.3143) are not included within this limit. EW produced by the ship itself is not included within this limit.

(D6.393) BUILT-IN ECCM: Certain units have built-in ECCM. This includes:

Plasma torpedoes [which have three points, see (FP4.31)];

and fighters (J4.47), PFs (K1.71), interceptors (K3.71), and ATG drones (FD5.26), all of which have two.

See (D6.3142). The ECCM of seeking weapons is cumulative with the ECCM of the controlling unit and is announced on impact.

(D6.394) BUILT-IN ECM: Certain units have built-in ECM. These are specified in the ship specifications, but are primarily Orion ships. See (D6.3142).

Most Orion ships have built-in ECM due to their stealth design (G15.8); these are noted on their SSD.

All fighters have two points of ECM built-in (J4.47).

PFs do not have built-in ECM (Orion PFs have the Orion "stealth" ECM above). PFs do have the two points of built-in ECCM and two "swing" points of EW (used as either ECM or ECCM) for a total of four EW points as defined in (K1.7). See (K3.7) for interceptors, which are a small type of PF and have the same points.

Note that many of these are "small targets" which gain extra ECM through (E1.7), and that most units can gain ECM through Erratic Maneuver (C10.42).

(D6.395) FIGHTERS: Fighters can gain extra ECM and ECCM by way of special pods (J4.96).

(D6.396) DOGFIGHT: EW has no effect in a dogfight (J7.0).

(D6.397) MONSTERS: EW has no effect on monsters unless the special rules for a given monster say otherwise.

(D6.398) EXPLOSIONS: Ignore the effects of EW when calculating the effects of a self-destruction blast.

(D6.4) NON-VIOLENT COMBAT *(Optional)*

The highest principles of the Federation call for the absolute minimum loss of sentient life. Because of this, Star Fleet has developed a computer system for its weapons control computers which carefully directs fire against only the weapons stations and engines of the opposing ship. It is felt that the opposing ship will always be the aggressor (in strategic terms, anyway) and that simply destroying its weapons systems will be sufficient to force it to retreat.

Any ship's captain can decide to use the non-violent combat options. (No player may ever be forced to use this system against his wishes unless directed to do so by the scenario.) This decision is made at the start of the scenario. In fleet scenarios, all ships on one side of the same empire must use the same system. (Very few players use this alternative, although it has considerable value in piracy.) Once the decision is made to use the non-violent options, the player cannot change his mind during that scenario. Refer to the NON-VIOLENT COMBAT OPTION DAMAGE ALLOCATION CHART (D6.41), using it instead of the regular DAMAGE ALLOCATION CHART (DAC).

(D6.41) NVC DAMAGE ALLOCATION CHART

DIE ROLL	EFFECT
1	Weapons hit, see chart (D6.411)
2	Power system hit, see chart (D6.412)
3,4,5	Miss — no effect
6	Random hit, use normal DAC

The above chart is used to distribute hits that have previously penetrated shields, armor, or PA panels.

A Legendary Weapons Officer (G22.74) modifies this die roll.

(D6.411) WEAPONS SYSTEM HITS CHART (use two dice)

DIE ROLL	EFFECT
2	Bridge (or any control system)
3	Scanner
4	Torpedo Hit
5,6	Miss — no effect
7	Phaser
8,9	Miss — no effect
10	Drone Hit
11	Sensor
12	Bridge (or any control system)

(D6.412) POWER SYSTEM HITS CHART (use one die)

DIE ROLL	EFFECT
1	Impulse engine
2	APR
3,4	Warp engine
5,6	Miss — no effect

(D6.42) OTHER HITS: Hits on systems that are not installed on a given ship or have already been destroyed are considered to be misses [see (D6.411), (D6.412), Non-Violent Combat].

A "Bridge" (or any control) hit causes one crew casualty. Other hits (except the random hits) do not cause crew casualties.

Legendary Officers on board the ship may be killed or disabled (G22.134).

(D6.43) EXCLUSIVITY: All weapons of any ship using this rule (with the exceptions of seeking weapons, hellbores, PPDs, maulers, which do not use NVC) will be resolved on the above charts. While contemporary students of starship combat may be puzzled by this, consider that it would be illogical for an empire to adopt a doctrine that their weapons could not use or to carry weapons their doctrine would not allow them to fire.

Mines (including transporter bombs) do not use NVC.

(D6.44) BRIDGE: Systems that are destroyed on "Flag Bridge" hits would be hit on "12" on chart (D6.411) instead of a bridge.

(D6.45) EMPIRES USING: There is no recorded instance of a Romulan captain using non-violent combat. Except for the Federation and Pirates, other empires use it only rarely. (Players may, of course, use it if they wish regardless of the empire they are playing.)

(D6.46) MARINES: Boarding party actions by a ship using NVC require the use of "stun" weapons. Obviously, the non-violent troops could be on both sides or either side.

(D6.461) "Destroyed" enemy boarding parties and control boxes return to action at the start of the third turn after they are eliminated. (If a boarding party is destroyed during the combat portion of Turn #4, it returns to duty at the start of Turn #7.)

(D6.462) When a ship is captured (or the attempt fails with all enemy boarding parties stunned), all "stunned" boarding parties are presumed to be captured by the victorious (but non-violent) troops.

(D6.463) If using (D16.12), stunned boarding parties are captured when the area they are in is captured.

(D6.464) Orions may use NVC in ship-to-ship combat and standard (i.e., violent) boarding party actions when trying to capture cargo ships. In such cases, any empire could do the same, but the Orions are more likely to face such a situation. This decision must be made before the scenario begins and cannot be changed during the scenario.

(D6.47) ALLIES: When ships of two empires are allied and only one is using NVC, each functions accordingly. In the case of NVC with boarding parties, where boarding parties of the two allies were fighting those of a third empire, have each of the allies attack and score casualties separately. Any odd casualties are scored as stunned.

NOTE: There has been a great deal of philosophical discussion regarding this rule. Wargamers who bought this game because it was a good tactical space combat game may feel that the use of rule

(D6.4) limits their activities and spoils the fun. Science fiction fans who bought this game so that they could live the adventures they had been reading will enjoy the challenge of the rule. It may well be argued that this doctrine was never used on film, or at least that there is not conclusive evidence that it was. Purists may claim that the doctrine is built into the battle computers and used automatically. It has been established that the only direct references to it are in material published long after the film. It should be noted that this rule can be used effectively by pirates who wish to capture a ship without damaging the cargo, by captains rescuing hostages, and by ships attempting to keep combat situations to a minimum.

(D6.5) UBITRON INTERFACE MODULES *(Commanders)*

The Klingon Deep Space Fleet has experimented with this device as a means of achieving more effective long-range firepower from their ships. It is basically a passive amplifier designed to increase the effectiveness of disruptors by more accurate fire control. Due to the vagaries of its operation, however, it is useful only at certain ranges. The UIM is used *only* with disruptors, not with any other weapon.

(D6.51) DISRUPTORS: When using the UIM system, normal disruptors firing at effective ranges of sixteen to 22 are resolved as if they were fired at a range of fifteen. Most versions of the disruptor chart have a UIM line showing its effects. See (D6.55) for overloads.

The UIM affects only the hit probability of, not the damage caused by, the disruptor.

UIMs cannot be used without active fire control (D6.623) and a lock-on to their targets (D6.124).

(D6.52) BREAKDOWN: Whenever the device is used for fire control, there is a 33% chance that it will break down (the special liquid crystals burn out easily).

(D6.521) Roll a die at the end of any (and every) impulse in which the device is used. A "1" or "2" will result in breakdown. This die roll is not secret.

(D6.522) UIMs cannot be repaired during a scenario. They can be repaired between scenarios using the campaign repair system (D9.4); assume a UIM to be equal to one weapon for this purpose.

(D6.53) DISCRETIONARY USE: Players are not required to use a UIM on every impulse that they fire disruptors or for every disruptor they fire during an impulse. Use of the UIM is entirely at the discretion of the owning player.

(D6.54) EFFECT OF BURNOUT: When a UIM breaks down, all disruptors which were fired under its control on that impulse are temporarily affected, but eventually return to normal operation.

(D6.541) The disruptors controlled by a given UIM may not fire for 32 impulses after the impulse on which the device burns out. Thereafter, resume normal operations.

(D6.542) A ship could have up to three extra UIM systems as standby systems. These are already "installed," no special procedures are required. A backup module cannot be used for 1/4 turn after the failure of a UIM, but disruptors not affected by (D6.541) can be fired without UIM control in such cases.

(D6.55) OVERLOADS: The UIM may be used with overloaded weapons; the limitations of (D6.51) apply. A ship firing overloaded disruptor bolts (even with the aid of a UIM) cannot fire at ranges greater than eight hexes. The probability of a hit at effective Ranges 3-8 is the same as that at Ranges 1-2. (The damage caused is not changed; use the true range.) The UIM cannot be used at these ranges with standard-loaded disruptors. The disruptor table on ships equipped with UIMs has a special line for overloaded-UIM firings.

(D6.56) INSTALLATION: The following ships have the UIM as standard equipment;

KLINGON: Starbase (one per module), battle station (one standard), ground-based disruptors (available for purchase), monitor (one standard). Backups available for purchase under (S3.2). Many Klingon warships had UIMs standard (or as optional equipment); see ship descriptions. See (R3.R3); available Y165 and later.

LYRAN: Starbase (one per module), battle station (one standard), ground-based disruptors (available for purchase), monitor (one standard). Backups available for purchase under (S3.2). Many Lyran warships had UIMs standard (or as optional equipment); see ship descriptions. See (R11.R4); available Y166 and later. Also see (R14.R2) for availability to the LDR in Y170.

OTHER: Other units as defined in their specific rules. Some units are specifically listed as having backup UIM systems. The cost of UIMs is shown on Annex #6; this cost is per UIM regardless of the number of disruptors on the ship. UIMs were expensive and, because of this, only larger ships received them. UIMs cannot be purchased as cargo and then plugged in as replacements during a battle.

The UIM became available (to the Klingons) about Y165 but was not widely used until several years later. Other than the Lyrans, WYN, and LDR, other disruptor-using empires did not initially adopt the UIM, finding it too unreliable. This changed with the advent of advanced technology (XD6.56) when all disruptor-using empires adopted it.

HISTORICAL NOTE: In Y170, Federation agents induced a mutiny on the Klingon D6 battlecruiser *Destruction,* resulting in its temporary capture. The Federation examined the UIM system (and the DERFACS system) at some length but apparently did not learn enough to reproduce it or to adapt it to Federation weapons. Ardak Kumerian, captain of *Destruction,* spent his next tour in command of the *Insufferable* (a penal frigate).

(D6.6) ACTIVE FIRE CONTROL

Ships (including bases, PFs, and interceptors) continuously use their sensors to analyze the surrounding area and locate various items of use or interest, including potential threats and targets. This system is generally referred to as "fire control" but is used for much more than simply firing weapons.

Non-ship units (e.g., fighters) use the same active fire control systems, but as they do not allocate power, the procedures are greatly simplified.

(D6.61) MODES: The fire control system can be in "active" or in "passive" mode. Passive fire control is formally covered in (D19.0); active fire control is covered in this section. In active mode, the fire control system transmits signals that reflect from nearby objects and uses high intensity analysis to gain information about those objects. In passive mode, the fire control system transmits nothing; it analyzes energy signals emitted by surrounding objects or reflected from the energy background using the scanners only.

(D6.611) Active mode is the only way to achieve a "lock-on," in which the sensors are actively tracking the target and generating fire-control data. The active mode is more accurate (and many systems cannot function with only the passive mode), but also makes the ship easier to see and target. Active mode generates a lock-on (although the lock-on could be prevented by cloaks, terrain, or other factors) while passive fire control can never have a lock-on.

(D6.612) Passive mode (D19.0) is used by ships trying to make themselves less noticeable (e.g., those using cloaks or wild weasels, or those hiding in asteroid fields or atmospheres.). It is also used by ships which are required to discontinue active mode. Rule (D19.0) is in *Advanced Missions*. If you do not have that product, units without active fire control cannot fire at all. See (D6.66).

(D6.613) Self-guiding seeking weapons generate and obtain their own lock-ons; they do not have a passive mode.

(D6.614) Inactive mode is a term applied to ships without active fire control but which are prohibited from firing under PFC (D19.0).

(D6.62) RESTRICTIONS ON PASSIVE (or INACTIVE) MODE: If the fire control system is not in active mode, the ship is under certain restrictions.

(D6.621) The ship cannot fire weapons or launch/guide seeking weapons except as may be allowed in (D19.0).

(D6.622) The ship can use ECM but not ECCM.

(D6.623) If the fire control system is not in active mode, the ship cannot use any of the following systems except as may be specified by (D19.0): Aegis Fire Control (D13.0), Anti-drones (E5.14), DERFACS (E3.62), Displacement Devices (G18.13), Maulers (E8.15), PPDs (E11.15), Special Sensors (G24.161), Stasis Field Generators (G16.35), Tractor beams (G7.412), Transporters (G8.17) [Exception (G13.421)], UIMs (D6.5), Web Casters (E12.13), or Web Snares (E13.1). See also Annex #7P.

(D6.624) An existing tractor link can be continued without active fire control. Transporters can be used for evacuation under (D21.0) without AFC.
(D6.625) An ESG could be activated in passive mode, although this would expose the position of the ship and nullify the benefits of (D19.0).
(D6.626) Bases under passive fire control cannot control mines (M5.27). (Non-base units, with the exception of sensor mines, can never control mines.)
(D6.627) Scouts cannot lend EW (G24.218) without a lock-on [exception (G24.28)] and can only have a lock-on if their fire control is active. The lock-ons held with tractors (G7.97) are adequate for direct-fire weapons but not for EW lending.
(D6.628) A ship without active fire control adds one to the die roll for terrain effects including (P2.223), (P2.231), and (P3.2). This modifier is cumulative with others such as nimbleness and legendary officers.

(D6.63) CHANGING MODES: Fire control can be changed from the active to passive (or inactive) mode (and vice versa) during any impulse in the Initial Stage (6B1). Involuntary mode changes to passive mode (cloak, WW) are made at the instant of the action requiring the mode change.
(D6.631) ENERGY: Using active fire control requires one point of power (B3.1 line 8). This point of power is necessary and sufficient for the entire turn or any part thereof, even if the ship switches to passive mode during the turn and then back to active mode during the same turn. The ship receives no "credit" for the time when fire control was in passive mode and cannot use part of a point of power for part of a turn of active fire control. "Unused" fire control energy does not carry over to the next turn. PFs, shuttles (including fighters), captor mines, small and medium ground bases, self-guiding seeking weapons, and certain other units noted in the rules do not allocate energy for active fire control. Note the exception to the cost in (D6.7).
(D6.632) GOING PASSIVE: A ship can switch its fire control system to passive (or inactive) mode immediately. This can be done during the lock-on step of any impulse. The player must announce this fact. This change will be required by certain actions (e.g., cloak activation, WW launch).
(D6.633) GOING ACTIVE: A unit is assumed to be using active fire control from the start of the scenario unless and until the owning player (or the scenario rules) says it is not. When switching to active fire control, the point of power required may have been allocated at the start of the turn or may be reserve power used at the time of the announcement. Reactivation requires four impulses (1/8 turn); the unit cannot use active fire control until this period has elapsed from the declaration that fire control is being activated. (For example, the player announces during the lock-on step of Impulse #4 that he is activating his fire control system. The system is considered to become fully functional at the start of the lock-on step of Impulse #8.) The benefits of PFC [e.g., (D19.31)] are, however, lost immediately upon activation (four impulses before it becomes functional). If the system is in passive mode during one turn and placed in active mode on the next turn, it will still require the four impulse activation period. Activation can be cancelled during the four-impulse period, but the unit will have already lost any PFC benefits.

(D6.64) EFFECT ON CLOAKS: When a ship (so equipped) activates its cloaking device, it must immediately place the fire control system in the inactive mode (G13.131). Note in (D19.21) that the passive mode will not be fully functional when the ship is cloaked. The fire control system is in inactive mode during the fade-out period and while the ship is cloaked. Switching the system to active mode will void the cloaking device; however, there is no effect if the system is activated at the same point where the cloak is deactivated. In this case, the four impulses required to reactivate the system will largely coincide with the fade-in period; the system will not be active until the four impulse activation period *and* fade-in are complete. As a practical matter, it is impossible to activate the fire control system without deactivating the cloaking device.

NOTE: Cloaked ships activate their fire control scanners when beginning fade-in and deactivate them when beginning fade out. There is no additional penalty in this rule for cloaked ships; this rule in fact explains why cloaked ships operate as they do. A cloaking ship cannot use passive fire control to fire, launch, or guide weapons during the fade-in/out period. The cloak restrictions supersede the PFC restrictions.

(D6.65) EFFECT ON WILD WEASELS: When a ship launches a wild weasel, it must immediately place the fire control system in passive mode. Note that firing weapons or taking certain other actions, even though allowed by the passive fire control mode, will void the wild weasel immediately. Switching the fire control system to active mode will void the wild weasel immediately, except during the "explosion period;" see (J3.2112). Outside of the explosion period, activating the fire control immediately voids a WW (at the start, not the end, of the four impulse activation period). A ship on passive fire control can receive ECM from lending or a WW. See also (G13.54) regarding use of a WW by a cloaked ship.

(D6.66) EFFECT OF SENSOR RATINGS: A ship with a sensor rating of less than six allocates power for fire control (during energy allocation or with reserve power) and then rolls a die. If the die roll is greater than the sensor rating, the fire control system does not function in active mode during the turn (the energy is lost); it can function in passive mode. A new die roll is made at the start of the next turn (if another point of power is allocated), and if successful the system becomes active immediately (without the four impulse delay). This explains, rather than modifies, the existing rules that such ships cannot gain a "general" lock-on.

(D6.67) EFFECT ON X-SHIPS: See (XD6.633).

(D6.68) DISRUPTED FIRE CONTROL: Ships can have their fire control disrupted by a variety of means, including: stasis (G16.73), displacement (G18.42) & (G18.53), computer failure (G11.411), ship separation (G12.52), and being externally-docked (C13.762) to a base. Some of these rules may provide additional penalties or exceptions to the penalties here. This also applies to fighters and shuttles. Also see (G2.23). The disrupted fire control lasts from the point at which the disruption occurs to the same point in the Sequence of Play four impulses later, e.g., if displaced (G18.0) in step 6D5 of Impulse #5 the disruption ends in step 6D5 of Impulse #9.

A ship with disrupted fire control is under the following restrictions for 1/8 turn (4 impulses) at which point fire control returns to normal.
(D6.681) Fire control is treated as "inactive." This is an involuntary change under (D6.63). This prevents the use of tractor beams, transporters, and various other systems that depend on a lock-on for use; see (D6.62). The fire control is still in the original mode (unless the player voluntarily changes it) but simply isn't functioning. (It is trying to re-establish its normal target tracking.) There is a partial exception in (G2.24).
(D6.682) The ship cannot fire any weapons, even under passive fire control, or control seeking weapons. EXCEPTION: The ship may fire direct-fire weapons at any seeking weapons within three hexes of itself (regardless of the facing or status of the weapon) just as if its fire control was not disrupted. (The valiantly struggling fire control computers interpret this type of target as a very definite threat and give priority to establishing target tracks for them.) A shuttle identified as a seeking weapon can be fired at; a shuttle not so identified cannot be fired at in this case.
(D6.683) Units with disrupted fire control cannot lay mines by any means (e.g., transporters, hatches).

(D6.7) LOW-POWER FIRE CONTROL

When the ship does not need full combat capabilities, but does need to fire some weapons, it can use its fire control system on low power settings. This system is often used by freighters and other non-warships.

(D6.71) ENERGY COST: Low-power fire control (LPFC) costs 1/2 energy point per turn (a full point could be allocated and only a half point used until later in the turn).

(D6.72) LIMITATIONS: LPFC cannot be used to fire at or guide weapons toward a target more than fifteen hexes (effective range) distant. LPFC cannot control more than two direct-fire and two seeking weapons (only one seeking weapon if not armed with drones or plasma torpedoes).
(D6.721) SEEKING WEAPONS: Low Powered fire control provides two seeking weapon control circuits no matter what the original ship's

control rating was, except that ships with no seeking weapons can only control one seeking weapon on LPFC.

(D6.7211) A unit using LPFC can only control two (or one) seeking weapon at any given point in the Impulse Procedure. It can itself launch no more than two seeking weapons during any given turn so long as it is on LPFC. This launch rate includes any seeking weapons launched earlier in the turn under active or passive fire control. If the unit launched two seeking weapons during the first part of a turn and then went to LPFC for the remainder (or part) of the turn, it could not launch any more seeking weapons during that turn.

(D6.7212) Once any seeking weapons it is controlling are removed from play, i.e., destroyed, released to their own guidance (if self-guiding) or their control is transferred, the ship is free to accept transfer of control of seeking weapons from other units within its own limits. It is legal for the ship to accept control of two seeking weapons from another friendly unit, and later in that same turn launch its own allowed seeking weapons after it is no longer controlling the other seeking weapons if it has not previously launched seeking weapons that turn.

(D6.7213) The quarter-turn delay between turns applies to the launching of seeking weapons by a unit on LPFC. If the unit launched two seeking weapons on Impulse #30 of Turn #1 and remained on LPFC (or went to LPFC) during the first eight impulses of Turn #2 it would not be able to launch any more seeking weapons prior to Impulse #6.

(D6.7214) The rate of launch under LPFC is not increased by using plasma-D racks in defense mode, type-E drone racks, or type-C drone racks, although obviously a ship armed with such racks could launch (within normal limits) both of its allowed seeking weapons from one such rack. Other seeking weapon systems with multiple launch capabilities that might be added to the game are also under these restrictions.

(D6.7215) Bolted plasma torpedoes and carronades are considered to be direct-fire and count against that limit and not against the seeking weapon limit.

(D6.722) DIRECT-FIRE WEAPONS: Direct-fire weapons are limited as per this rule, i.e.; the unit cannot fire more than two direct-fire weapons during a turn while it is on LPFC.

(D6.7221) This applies to "weapons" and not "shots". A ship on LPFC could fire two PPDs, all six pulses from two overloaded PPDs, all eight pulses from a pair of phaser-Gs (on the same impulse, or spread over all 32 impulses), or launch all 24 ADDs from a pair of twelve-round ADDs if so armed (or a combination of any two).

(D6.7222) As with launching seeking weapons, if the ship fired two or more weapons earlier in a turn on passive or active fire control, it would not be able to fire any weapons later in that turn on LPFC. The quarter-turn delay between turns also applies. If the unit fired two direct-fire weapons on Impulse #30 of Turn #1 and remained on LPFC (or went to LPFC) during the first eight impulses of Turn #2 it would not be able to fire any more weapons prior to Impulse #6. Note that the PPDs, phaser-Gs, and ADDs could fire some shots in one turn and other shots in another turn as per their normal rules. Other multi-shot direct-fire weapons that might be added to the game are also under these restrictions.

(D6.723) COMBINATION: A unit armed with both direct-fire and seeking weapons can launch two seeking weapons and fire two direct-fire weapons on the same impulse or during the period is on LPFC. This is provided that other restrictions defined, e.g., fired/launched previously in the turn, currently controlling one or more seeking weapons, etc., above are not in force.

(D6.724) SYSTEMS: Non-weapon systems not defined above are not affected by this rule other than their range limits, i.e., labs, tractors, transporters (including Andromedan transporters used to move their satellite ships), ESGs, and web generators are unaffected. Displacement devices are limited to affecting things within the fifteen hex range limit and count as a weapon. SFGs count as a direct-fire weapon.

(D6.725) ELECTRONIC WARFARE: LPFC cannot use more than three points of ECCM from all sources, including self-generated, or lent. ECM use is unaffected.

(D6.726) OTHER FIRE CONTROL SYSTEMS: LPFC cannot use Aegis, maulers, special sensors, DERFACS, UIM, or NVC. A unit on LPFC cannot detect mines or sweep them. A base using LPFC cannot control mines.

(D6.73) ACTIVE: While LPFC uses less power, it is still "active" fire control (e.g., it will void wild weasels and cloaks, etc.). If a ship is using low-power fire control, it cannot increase its rate of fire/launch by using passive fire control with other weapons. A ship cannot operate simultaneously under LPFC and PFC (D19.0), and cannot fire any weapons on PFC while operating LPFC. LPFC can be detected as such at Tactical Intelligence Level B (D17.4). Reserve power (or the other half of a point of allocated power) can increase LPFC to normal active fire control under (D6.633). If a ship switches from LPFC to AFC, it incurs the same delays as switching from passive to active fire control, and is under all the restrictions of activating its fire control as if it were under passive fire control.

(D7.0) MARINE BOARDING PARTIES *(Advanced)*

All warships (and some others) are provided with groups of trained troops that can be used in various security duties. These troops can also be organized and used as boarding parties. The number of boarding parties available to each ship type is shown on the MASTER SHIP CHART. The terms "boarding party" and "marine squad" are interchangeable.

(D7.1) RECORD KEEPING

(D7.11) UNITS: Boarding parties are recorded as individual units. At any time, and for any reason, players (or a player) on one side may transfer boarding parties from one ship to another by (D7.16). In multi-scenario campaign games, the boarding parties are carried over from scenario to scenario, as assigned to the various ships.

(D7.12) EMPIRES: Boarding parties of different empires are identical for game purposes. The Gorns and Kzintis are physically larger and more powerful than the other species in the game. This has been compensated for by including more boarding parties on their ships. (While there is no hard-and-fast rule, it could be assumed that a Gorn boarding party had four troops, a Klingon BP five, and a Hydran BP six.) No combat or crew casualty adjustments are necessary in combat between the various empires.

(D7.13) RECORDS: The records for boarding parties are kept independently from the crew records. However, see (G9.31).

(D7.14) GROUND TROOPS being carried (by certain ships) are included in the ship's BPV and can be used as boarding parties.

(D7.15) OTHER UNITS: Other rules such as (D15.8) provide other units for use in boarding party combat such as commando teams, heavy weapons squads, civilians, and militia squads. The basic procedure given here in (D7.0) uses only the marine units.

(D7.16) TRANSPORTATION: Marines can be moved between ships by shuttle (J2.211), docking (C13.47), or transporter (G8.31)-(G8.32).

(D7.17) EXTRA MARINES: Ships may purchase extra boarding parties as Commander's Options (S3.2).

(D7.18) PENALTIES: Note that ships with poor crews (G21.141) have various penalties in boarding party combat. Ships with outstanding crews have various advantages shown in (G21.241).

(D7.2) CAUSES OF BOARDING PARTY CASUALTIES

(D7.21) SHIP COMBAT: Every tenth internal damage point destroys one boarding party (it takes two BPs to make a crew unit), in addition to one crew unit (G9.21). The first four such boarding party casualties are ignored; the last two boarding parties on the ship cannot be killed by this method but could be broken up by the owning player (declared to be simple crew units, It takes two BPs to make a crew unit) to form part of a skeleton crew (G9.41). However, see (D7.51). The BP to be lost is selected by the owning player and can be any of his own BPs (including guards) except one captured by the enemy. Casualties under (D7.832) are scored first, before casualties resulting from general internal damage.

If two or more players (all on different sides) have boarding parties on a ship that is damaged, all take casualties by this procedure. Each of the non-allied empires would take casualties at the same rate. All would lose the first BP on the 50th point of internal damage, the second on the 60th point, and so on. The last two boarding parties for each "side" are protected by the first paragraph.

(D7.22) MARINE COMBAT: This is man-to-man (or whatever-to-whatever) combat as resolved in (D7.3).

(D7.23) HIT AND RUN raids can cause boarding party casualties. See the chart in (D7.81) and rule (D7.832).

(D7.3) BOARDING PARTY COMBAT

(D7.31) COMBAT: If boarding parties are transported onto an enemy ship, combat occurs between the boarding parties and the ship's defenders. Other rules sections, such as (D15.0), provide for boarding party combat to take place on planets and other locations.

(D7.32) SEQUENCE: While boarding parties may be transported onto the ship during any impulse, the actual resolution of combat is not done until the end of the turn, during the Final Activity Phase; exceptions: (D7.8) and (D7.6).

(D7.33) IDENTIFICATION: When combat is taking place, the "defending" player is assumed to be the player owning the starship, and the "attacking" player is the one who boarded it.

(D7.34) MULTI-SHIP: More than one ship may transport boarding parties to the ship on which the combat is taking place, and ships friendly to the boarded ship may also send boarding parties to assist in the defense.

(D7.35) MULTI-SIDED COMBAT: In the event that three players have boarding parties in one ship (area, ground combat location, or whatever), and no two are allied, the situation is resolved as follows:

Each player divides his boarding parties into three groups, one to fight each of the two opposing players and a non-fighting reserve. (One or two of the three groups could have zero strength.) This is done secretly (in writing) and simultaneously; the distributions are then revealed simultaneously. Three separate actions (A vs B, B vs C, C vs A) are then resolved (simultaneously in game terms). If, for example, player A's force sent to fight player B destroys all of the player B forces sent against him, excess casualties are resolved against player B's reserve at the normal rate and, if they exceed that reserve, against player B's forces sent against player C at double the normal casualty rates (i.e., each casualty point kills two boarding parties). The player A forces sent against player B would not score casualties against player C even if all player B forces were destroyed.

If there are four or more non-allied players in the location, the same principle is involved with fewer troops.

(D7.36) CONTROL: Each control room on the ship (bridge, emergency bridge, auxiliary control, security, flag bridge) consists of one or more contiguous SSD boxes. (It is possible to have more than one control room of a given type, particularly on a tug with pods. Each is a separate room.) The capture of all undestroyed control rooms results in the "capture" of the ship; see (D7.50).

(D7.361) In Step #4 of the combat procedure in (D7.4), the defending player has the option of giving up one or more undestroyed control rooms instead of giving up boarding party casualties.

(D7.362) Each control room with one or more undestroyed boxes counts as two casualty points regardless of the number of undestroyed boxes in it (three points for a security station). These control rooms are captured, not destroyed. While one casualty point can be scored on a given control room (having no real effect), no more than one control room can have this damage applied at any given time. Any subsequent control room casualties, whether by voluntary or directed damage, must be scored on the same room until it is captured.

(D7.363) Once the attacking player has captured one or more control rooms, he may give them up instead of losing casualties in the same manner.

(D7.364) Control rooms have no offensive potential in boarding party combat. Security stations (D7.4-Step 2A) have an effect on boarding party combat.

(D7.4) COMBAT PROCEDURE

(D7.41) STEP 1: Each player determines his total combat power.

For the attacking player, this is the number of boarding parties which he has on the enemy ship. For the defending player, this is the number of boarding parties on the ship under attack.

Control stations do not count as they have no offensive potential. The advanced rules in (D15.8) provide for various other types of boarding party combat units, such as militia (D15.83), that could be used.

(D7.42) STEP 2: Each player rolls a single die and cross-indexes the result with the total number of boarding parties he has to reveal the number of casualty points scored on the other player's forces. If a player has more than ten boarding parties, he divides these into one or more groups of ten and (usually) a single group of less than ten. For example, 23 boarding parties would be resolved as two groups of ten and one group of three. Roll a separate die for each group.

(D7.421) MARINE CASUALTY RESOLUTION TABLE

DIE ROLL	Number of Boarding Parties									
	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	1	1	1	1	1	1
2	0	0	1	1	1	1	1	2	2	2
3	0	1	1	1	2	2	2	2	3	3
4	0	1	1	2	2	2	3	3	4	4
5	1	1	2	2	3	3	4	4	5	5
6	1	1	2	2	3	4	4	5	5	6

(D7.422) STEP 2A: Klingon marines on Klingon ships add one to the die roll for each undestroyed and uncaptured security station (not box) on the ship. The maximum adjustment is +2, even if there are more than two security stations. An adjusted die roll of more than six is treated as a six. If there are more than ten Klingon boarding parties, the die roll modifier applies to each group, e.g., if there were 22 boarding parties there would be two groups of ten and one group of two, each would receive the modifier. In cases where boarding parties of various crew quality levels [i.e., (G21.141) and (G21.241)] are on one "side," resolve casualties caused by each force separately, then add the total. Example: If six boarding parties were on one side, one from a ship with a poor crew, two from a ship with an outstanding crew, and three from a ship with a normal crew, they would roll as three separate groups (with their appropriate modifiers) not as one group of six boarding parties.

(D7.43) STEP 3: Each player has the option of using some of the casualty points scored by his troops for "specific allocation," which means that he can choose what those points are used for. In this case, however, it requires two casualty points to destroy each boarding party and four to capture a control room (six for a security station).

(D7.44) STEP 4: Each player removes a number of boarding parties equal to the casualties produced by the other remaining after Step #3. See (D7.36) for the option to give up control rooms instead of boarding parties.

(D7.45) EXAMPLE: A Klingon D6 battlecruiser has been seriously damaged by Turn #5 of the game. It only has three command boxes (one auxiliary control, one emergency bridge, one security) and four boarding parties left. Three Federation ships are in the area and transport a total of nine boarding parties onto the Klingon ship. Combat is resolved at the end of Turn #5 as follows:

The Klingon player rolls a "4" which is adjusted to a "5" by the one surviving security station. Cross-indexed on the chart this produces two casualty points, meaning that the Federation player will have to give up two of his marine squads. (There is no need for the Klingons to use the option in Step #3 as the Feds have only one type of unit to lose.) The Federation player rolls a "2" which causes two casualty points. The Federation player passes on the Step #3 option;

the Klingon player gives up the auxiliary control room to resolve two of the casualty points.

During Turn #6, the three Federation ships send ten more boarding parties onto the ship. Of these, however, seven are sent at the higher non-combat rate (G8.32) and cannot be used offensively. The other three combine with the seven survivors from the original wave to form a single group of ten squads. The Klingons still have four boarding parties. At the end of Turn #6, the Federation rolls a "4" meaning he has scored four casualty points. The Klingons roll a "2" which is adjusted to a "3" by the security station, scoring only one casualty. The Federation player uses the Step #3 options to insist that the four casualty points be resolved by destroying two Klingon boarding parties; otherwise the Klingons could give up another control room. (This is a mistake on the Federation player's part since there are so few Klingon forces. If he had skipped Step #3, the Klingons would have had to give up one control room and some of their remaining troops, or ALL of their remaining troops.) The Federation player gives up one Marine unit. The battle continues.

(D7.46) Boarding parties cannot destroy boxes on a unit unless that unit has been captured (D7.5). Exception: (D16.54).

(D7.5) CAPTURING A SHIP WITH BOARDING PARTIES

(D7.50) HOW TO CAPTURE: A starship is considered to be captured if all undestroyed control rooms (including security stations) have been captured. When a starship is captured, the capturing player cannot operate the weapons of the ship, but can maneuver it and attempt to leave the map with it.
(D7.501) If there are no undestroyed control rooms, the defending player may designate one of the destroyed control rooms (not a security station) as operational ("temporary control room"). This temporary control room is providing the limited control capabilities noted in (G2.2); it is where the highest-ranking officers have gathered to attempt to restore control. When this temporary control room is surrendered to, or captured by, the attacking player, the ship is captured even though combat may continue. See (D7.52).
(D7.502) If a ship disengages with an ongoing boarding action still in effect, the scenario is extended aboard that ship until the boarding action is resolved.
(D7.503) When the ship is captured [the last control station (D7.501) is captured), the capturing player takes over the ship's SSD and Energy Allocation Form at that point. Should the ship be recaptured, or captured by another empire, the SSD and Energy Allocation form will be turned over to the new player. A captured ship, even if retaken by the original side, cannot self-destruct under (D5.0) (the enemy will disable this system as part of taking the ship).

(D7.51) CREW: For a captured ship to be moved, it must be manned by a "skeleton crew." See (G9.41) for required size. This crew must be transported from the capturing player's other units. Boarding parties cannot be reformed into crew units (G9.432) on a captured ship, but militia can be.
(D7.511) There must be one boarding party for every ten enemy crew units on board (to guard the prisoners). If the required guards are not provided, any excess unguarded enemy crew units can be formed into militia as per (D15.83). Prisoners cannot be executed; life support must be maintained. Unguarded crew units may voluntarily destroy one system box for every four crew units that are unguarded.
(D7.512) Until the skeleton crew arrives, the ship cannot move or operate any systems, except that life support will continue and the shields will remain at the same operating status as they were immediately prior to the capture (assuming power is available). No shield reinforcement can function without the skeleton crew. During Energy Allocation, continue the previous power to the shields (except reinforcement), allocate power to life support, to fire control (if it was operating immediately prior to capture), allocate power to recharge any batteries, and then leave the remainder of the power unallocated.

(D7.52) CONTROL SYSTEMS: If all control boxes had been destroyed, the capturing player can designate one of the "destroyed" control rooms as his temporary control room under (D7.501). This need not be the same temporary control room previously used by the defenders.

(D7.53) ACTIONS ON CAPTURE: When captured, a ship immediately takes the following actions.
(D7.531) The ship drops or releases control of all seeking weapons (F3.4); it cannot transfer this control to an allied ship.
(D7.532) The ship ceases to operate ESGs, PPDs, and SFGs.
(D7.533) The ship ceases to use Erratic Maneuvering.
(D7.534) The ship ceases to perform repairs or to reload fighters/PFs. All shuttles and PFs on board are captured (J1.81).
(D7.535) The ship ceases to operate EW or scout systems or lend EW to its fighters or PFs.
(D7.536) The ship ceases to be affected by crew or officer quality of the original crew.
(D7.537) The ship no longer "leads" formerly friendly units through asteroids. The arming of multi-turn weapons ceases; the energy is lost and the weapon ejected. Any WW, SP, or SS shuttles in the bay or on the balcony become inactive.
(D7.538) Other effects are as per the rules. A captured Tholian ship loses the ability to move and fire through webs or function as an anchor. A captured base loses the ability to control command-detonated mines. If a base is captured the capturing player will learn the location of all command-detonated mines after the current scenario and before the next one.
(D7.539) The capturing player may destroy one box on the SSD of the captured unit for every five boarding parties or crew units that are not involved in guarding prisoners or operating the ship (D7.51).

(D7.54) OPERABLE SYSTEMS: The capturing player can operate the following systems only: engines, control spaces, APR, batteries, cloaks, labs (scientific research only), transporters (not T-bombs), shields, ECM, movement (except EM, HET, Emer-Decel, or nimble), tractor beams, pod detachment. To operate these systems requires the skeleton crew in (D7.51). AWR, active fire control (needed for various non-weapon systems), and shields can be used. The capturing player cannot deactivate life support if this would result in casualties among the original crew on board. The capturing player begins controlling the ship on the Energy Allocation Phase that is at least 32 impulses from the point at which he has met the conditions of (D7.51) for a skeleton crew.
(D7.541) The capturing player can operate his own shuttles that transfer to the captured ship but only as administrative shuttles, not as scatter pack, suicide, or WW shuttles. The shuttles (not fighters) of the captured ship can be operated (or charged and used as WWs), but their weapons cannot be used and they cannot be used as scatter-pack or suicide shuttles.
(D7.542) The captured ship has an assumed damage control rating of 2 for purposes of (D9.7) continuous repairs. Within a given scenario (and some campaigns where the limit applies over several scenarios), each side can perform the limit of repairs under (D9.7), but does not get a new limit if a captured ship is recaptured.

(D7.55) INOPERABLE SYSTEMS: The capturing player cannot operate the following systems: weapons (any weapon listed in any part of Annex #7D), fighters, PFs, mines, ECCM, scout channels, super-intelligent computer, self-destruct, displacement device, certain movement functions (e.g., EM, HET, quick reverse, emer-decel, nimble), and the ability to control seeking weapons. These items can be used on a captured ship in a subsequent scenario. Any fighter pilots or PF crews would be Green [(J6.22) and (K8.22)]. Exception (D7.541).
(D7.551) The capturing player cannot use aegis or labs to identify drones and cannot separate sections, drop warp engines, double Orion engines, or use non-galactic (Andromedan and Tholian) abilities or equipment. These items (except for extra-galactic technology) can be used on a captured ship in a subsequent scenario.
(D7.552) PA panels will remain operating at the current level and will absorb and dissipate damage to the limit of their ability, but power cannot be transferred to, from, or between panels (or to the batteries) and the level cannot be increased. This is an automatic system which the panels default to when the crew is no longer functional. The capturing crew could turn the panels off or reduce their level after the skeleton crew is aboard and control established, but could not subsequently raise their level or turn them back on.
(D7.553) The special abilities of security stations apply only to the original owner of the ship. Andromedan, Tholian, or Seltorian specific technology is lost and cannot be reactivated. Other systems, such as Aegis, can be restored as part of the conversion process.

(D7.554) A captured ship may be released from some or all of these restrictions after the scenario is over and the ship is taken to a shipyard for overhaul and conversion.
(D7.555) A legendary weapons officer (G22.75) can unlock the weapons on a captured ship.

(D7.56) CONTINUING COMBAT: It is possible (either by using the Step #3 options or because the defender allowed it to happen) that a ship could be captured while some of its defending boarding parties are still active. Alternatively, boarding parties friendly to the original owners could be transported aboard. In this case, boarding party combat continues and the original owner might even recapture the ship. If he does so, he is treated as the original owner (which he is), not as a capturing player.

(D7.57) CAPTURED AND CONVERTED SHIPS: For campaign purposes, ships captured and overhauled/converted such as the D7H *Anarchist*, most of the WYN fleet, or OK6 *Conquest* count as belonging to the capturing empire, not the original empire. In this case, it is the capturing player who has full (D9.7) capabilities and the recapturing player who has the assumed damage control rating of 2.

(D7.6) CAPTURING SHUTTLECRAFT WITH BOARDING PARTIES *(Commander's Level)*

(D7.60) PROCEDURE: Players may attempt to capture manned shuttlecraft with boarding parties. If the shuttle has a BP aboard, then see (D7.836) and (D7.831). Fighters may not be boarded (J4.42); exception (D7.631).
(D7.601) One boarding party (only) may transport onto an enemy shuttlecraft. At the instant this party arrives, a die is rolled:

NORMAL	CMDO	OUTST	POOR	RESULT
1-2	1-3	1-3	1	Shuttle Captured
3-5	4	4-5	2-4	BP Destroyed
6	5-6	6	5-6	Issue In Doubt

(D7.602) A die roll of "6" indicates that the issue is still in doubt. The shuttle stops moving at that point, and combat is resolved again at the end of the turn. If still in doubt, the shuttle does not move and a die is rolled to resolve combat at the end of each turn until resolved. If the "issue is in doubt" the shuttle cannot move or fire any weapons. It can drop chaff, but it cannot lay mines or control seeking weapons. It cannot take any other action unless specifically permitted by a rule. Neither side can transport their personnel off the shuttle until the action is decided.
(D7.603) A player may not operate the weapons of a captured shuttlecraft.
(D7.604) Upon arrival, the BP will be told if the shuttle is manned or seeking. If a seeking shuttle, proceed under (D7.62) not (D7.60).

(D7.61) WILD WEASEL SHUTTLES: Boarding parties may attempt to board and capture WW shuttles. Roll a die when the BP arrives.
(D7.611) Voided Captured: WW systems are deactivated, WW voided (J3.4), weapons tracking WW return to original target, and the BP takes over the shuttle.
(D7.612) Exploded: WW and BP destroyed; explosion period (J3.211) begins.
(D7.613) Issue In Doubt: Roll again at end of each turn until resolved. WW continues normal operations. Note, the boarding party could be recovered by transporter (G8.0) eight impulses (or more) after they are transported aboard the shuttle, even on the same turn (using a different transporter).

NORMAL	CMDO	OUTST	POOR	RESULT
1	1-2	1-2	1	Voided-Captured
2-4	3-4	3-4	2-3	Issue in Doubt
5-6	5-6	5-6	4-6	Exploded

(D7.62) SEEKING SHUTTLES: Boarding parties may attempt to board and capture seeking shuttles; roll a die when the BP arrives.
(D7.621) Deactivated Captured: Suicide or SP systems deactivated (J1.86), BP takes over the shuttle.
(D7.622) Booby Traps in the shuttle have destroyed the boarding party. The shuttle continues on its mission. These booby traps can be voluntarily deactivated by the owning player prior to launch.
(D7.623) Issue In Doubt: Roll again at the end of each turn until resolved. The seeking shuttle continues its mission. Note, the boarding party could be recovered by transporter (G8.0) eight impulses (or more) after they are transported aboard the shuttle, even on the same turn (using a different transporter).

NORMAL	CMDO	OUTST	POOR	RESULT
1	1-3	1-3	1	Deactivated-Captured
2-5	4-5	4-5	2-4	Issue in Doubt
6	6	6	5-6	Booby Trap

(D7.63) SHUTTLE BAY: Combat involving enemy shuttles inside the ship's shuttle bay (G7.8) or (J1.63) is resolved as follows:
(D7.631) At the end of each turn that any uncaptured enemy shuttle is in the shuttle bay, boarding parties belonging to the ship can attempt to capture it. One or two boarding parties can make the attempt against any one shuttle, and each can attack only one shuttle. The target of each BP is announced before any attacks are resolved. These boarding parties can have participated in no other actions (other than guarding that shuttle bay; guards can be released for this purpose) on that turn and can make only one attempt each. Roll one die for each attempt and interpret the result as follows:

DIE ROLL	FIGHTER, HEAVY FIGHTER	ADMIN, MSS, MLS, HTS, OTHER	MRS, GAS, SWAC
1	Captured	Captured	Captured
2	Captured	Captured	Captured
3	Captured	Captured	Captured
4	Captured	Captured	No Effect
5	Captured	No Effect	BP Killed
6	BP Killed	BP Killed	BP Killed

(D7.632) If the shuttle has been crippled (J1.33), it cannot resist any attempt to capture it with boarding parties. See (D7.6332) for a special case.
(D7.633) If there are boarding parties on board the shuttle (friendly to the shuttle, not the ship), they can remain on board the shuttle or disembark.

(D7.6331) If the boarding parties leave the shuttle, their fate and that of the shuttle are resolved separately, in accordance with the appropriate rules. The shuttle cannot fire in support of the marines as it could on the ground in (D15.0); it can fire as per (G7.81). Note that if they were loaded at the non-combat rate (J2.211), they could not fight offensively on the current turn.

(D7.6332) If these boarding parties do not board the enemy ship, then modify the die roll (D7.631) against their shuttle by +1 and treat a crippled shuttle (D7.632) as an uncrippled one except that the shuttle itself cannot fire. If there is more than one BP on the shuttle, only one can fight to defend the shuttle.

(D7.634) It is presumed that the shuttle landed during "recover shuttles" and that any boarding parties disembarked from the shuttle during "operate transporters" of any later impulse at the owning player's option. The boarding party could return to their shuttle during the "operate transporters" of any later impulse. The shuttle cannot launch during any impulse in which it has taken boarding parties on board. The shuttle cannot launch within 1/4 turn of landing as in (J1.52) and, under some circumstances, may not be able to launch at all. Boarding parties delivered by this procedure cannot be used for hit-and-run raids. Shuttles which have (voluntarily or otherwise) landed in an enemy bay *always* turn off their warp booster packs (if any).
(D7.635) A legendary marine major (G22.5) counts as a boarding party, even if he arrived in the back seat of a two-seat fighter (J4.43).

(D7.636) Outstanding or commando BPs get a -1 on the die roll in (D7.631) to attack a shuttle; poor crews and militia have a +1. A die roll of six is never modified and always remains a six.
(D7.637) Boarding parties on the ship could attempt to attack (rather than capture) the shuttle by firing at it with low-powered weapons. Such an attack is made in the Final Activity Segment instead of the attempt to capture the shuttle. Up to four boarding parties may fire at the shuttle; each does one point of damage automatically. The obvious intention is to cripple the shuttle; this method is slower but more certain than attempting to capture it outright.

(D7.7) PREVENTING SELF-DESTRUCTION *(Commander's Level)*

If boarding parties are on board of any given starship, they may be able to prevent self-destruction from being carried out if the crew should attempt to do so (D5.52).

(D7.71) PROCEDURE: In such cases, the owning player (of the ship) must roll a die at the time that self-destruction is announced to determine if the boarding parties have prevented self-destruction. The die roll cannot be made if the ship is not attempting self-destruction.

DIE ROLL	RESULT
1	Self-destruction is permanently blocked.
2-3	Boarding parties temporarily prevent self-destruction. Roll again on the next turn.
4-6	Crew successfully destroys ship.

(D7.72) ATTACKING MODIFIERS: Certain special types of boarding parties gain a die roll modifier.

If the only functional enemy boarding parties on board are militia, add one to the die roll.

If one or more of the enemy boarding parties is a commando squad, subtract one.

If there is an enemy Marine Major or enemy Legendary Engineer on board, subtract one from the die roll. This is not cumulative with commandoes (or another such officer), but is used instead of the militia modifier.

(D7.73) DEFENDING MODIFIERS: Certain cases can cause a defensive modifier.

If the ship has an outstanding crew, add one to the die roll. If the crew is poor, subtract one.

If there is a legendary marine, engineer, weapons officer, or captain aboard, add one. Multiple officers are not cumulative with each other, but are cumulative with a crew modifier.

(D7.74) HIT AND RUN raids cannot deactivate a self-destruction system or interfere with the attempt.

(D7.8) HIT AND RUN RAIDS *(Commander's Level)*

Boarding parties may be used on "hit and run" raids. In this event, the party is attempting to destroy some key item of equipment on the enemy ship or to capture some item or individual.

(D7.81) PROCEDURE: For each boarding party making an attempt, designate the specific box on the SSD that they are attacking. A die is then rolled to resolve their attack on the following chart:

NORMAL	CMDO	OUTST	POOR	RESULT
1	1	1-2	-	System destroyed, BP returns
2	2-3	3	1	Both destroyed
3-5	4	4	2-4	BP destroyed, system ok
6	5-6	5-6	5-6	BP returns, system ok

Even if the transporter being used for a hit-and-run raid is destroyed by an enemy hit-and-run raid on the same impulse, a surviving boarding party still returns to its own ship, and is not stranded on the enemy ship.

(D7.82) RESTRICTIONS AND CONDITIONS:
(D7.821) Any given boarding party may make ONE such raid per turn, assuming transporters are available. Each transporter can support one such raid, performing both the "in" and "out" operation.
(D7.822) Hit-and-run raids are conducted and resolved during the Impulse Activity Segment. Note that each raid is conducted and resolved during the Activity Segment of a specific impulse.
(D7.823) Boarding parties can attack "sensor" and "scanner" boxes but not damage control or excess damage boxes. Raids cannot be used to cause critical hits. Hit and run raids can only be conducted against the best (top/left) undestroyed box on the sensor or scanner tracks. Guards on those systems cannot be killed by damage to the system.
(D7.824) Hit-and-run raids may be made to remove specific individuals or objects from a given ship. This will normally involve items specified by a given scenario. When trying to capture a person or object, the result "System destroyed and BP returned safely" is read "target captured and BP returned safely." The result "System and BP destroyed" is applied as stated.
(D7.825) Non-SSD items and special abilities (Aegis, T-bomb storage, increased drone control, etc.) cannot be attacked by hit and run raids unless the rules specifically allow it. See (D7.85) for other restrictions, conditions, and allowances.
(D7.826) Crew units, deck crews, boarding parties, shuttles in flight and other such units cannot be attacked by hit-and run raids.
(D7.827) Assassinations (of legendary officers or individuals specified in various scenarios, such as an ambassador) can be conducted by hit-and-run raids. The attacking player indicates that he is making an assassination raid on a given SSD box or room where an individual might be located (G22.13). If the raid is successful *and* if *any* individually identified person(s) is present, *that* person is (or those persons are) killed. (Note that such an attempt has little chance of success unless the location of the target is known, but the scenario may specify locations for a special individual, and legendary officers can only function in certain areas.)

(D7.83) GUARDS: A player may designate some of his boarding parties to be guarding specific individuals or objects. In this case, a hit and run raid has a lesser chance of success (D7.831) against these targets, but the boarding party assigned as a guard cannot be used in normal boarding party actions.

Assignments of such guards are made at the start of the turn and cannot be changed until the next turn; no more than one boarding party may be assigned to guard a given compartment or object. See (J1.413).
(D7.831) If a hit and run raid is conducted against a guarded object, person, or compartment, roll one die and find the result below.

NORMAL	CMDO	OUTST	POOR	RESULT
1-3	1-2	1-2	1-4	BP Destroyed
4-5	3	3-4	5	BP Returns
6	4-6	5-6	6	Conduct Hit-and-Run

(D7.832) If the box that a boarding party is guarding is destroyed by any means, there is a 50% chance that the boarding party was destroyed with it. These casualties are in addition to those in (D7.21). If the boarding party survives, it is immediately released to the general pool of boarding parties.
(D7.833) No more than one boarding party can be assigned to guard one object, area, or group of people.
(D7.834) Guards do not count in the boarding party calculations under (D7.4). They can be ordered by the owning player to leave their posts and participate in combat during the Energy Allocation Phase, but would have to be re-posted under rule (D7.83) before they counted for (D7.831).

Guards do not count as undestroyed boarding parties for (D7.5). When the ship is captured, all guards are transferred to boarding party status and may attempt to regain control of the ship.
(D7.835) The specific box on the SSD to which each guard is assigned, and the specific box being attacked, must be specified. In cases (such as shuttle bays) in which the owner has not specifically recorded which box contains which unit, determine randomly which items are in each box. See (J1.413).
(D7.836) It is not possible to place guards on board a scatter-pack, suicide shuttle, or wild weasel. Boarding parties being transported at combat rates on a shuttle count as guards for that shuttle. When

enemy troops try to capture the shuttle, the guards provide a +1 die roll modifier for (D7.6).

(D7.837) Under some conditions a single boarding party may guard more than one box on the SSD.

(D7.8371) A single boarding party, assigned as a guard, is sufficient to protect all connected control boxes of a single type. For example, if there are two connected bridge boxes, one guard covers both. Different types of control boxes (security, flag, aux, emer, bridge) can never be protected by a single guard.

(D7.8372) A single boarding party, assigned as a guard, is sufficient to protect all connected warp engine boxes of a single specific engine (i.e., the left engine of a Fed cruiser, the boom warp engine of a Klingon C8, the two warp boxes of a C7 boom, etc). A single boarding party, assigned as a guard, is sufficient to protect all connected impulse engines.

(D7.8373) As the enemy can only conduct a hit and run raid against the highest undestroyed box on one of the tracks (sensor or scanner; remember that damage control and excess damage cannot be attacked by hit and run), a single boarding party, assigned as a guard, protects the entire track.

(D7.8374) In all other cases, each box on the SSD must be guarded individually. Even adjoining and connected boxes of the same type (e.g., phasers, shuttle bays) are separate for this purpose.

(D7.8375) The casualties of (D7.832) are rolled for if any box in the group is destroyed by a hit and run raid, but not in the case of combat damage unless the entire group is destroyed. This does not apply to adjacent boxes covered by (D7.8374). Exception: Guards on sensors and scanners cannot be killed; see (D7.823).

(D7.838) Up to six individuals may be specified as being in a given compartment (or room, a designation not specifically translatable into specific systems boxes on the SSD), and one boarding party can guard that one room. For example, several legendary officers could be designated as being in the "bridge" (which probably corresponds to two or more specific boxes on the SSD).

(D7.84) MULTIPLE RAIDS: Two or more raids cannot be made by the same player (empire, side, team) on a single box [or (D7.837) group] within a period of 1/8 turn. Exception: (J1.413).

(D7.85) RESTRICTED TARGETS: Hit and run raids can destroy, but not capture, a cloaking device (G13.161) or a DERFACS or UIM fire control system. These items could be captured using (D16.12) by occupying the entire area (normally that with the bridge) for two full turns (repulsing all attempted entry). See (D7.825).

(D7.86) REACTION: After a hit-and-run raid against a specific system, the owner of the defending ship may (but is not required to) assign or transfer guards to that system or other systems of that specific type (including all types of phasers as a single type) immediately after the hit and run step in which the raid was conducted.

(D8.0) CRITICAL HITS *(Optional)*

In order to increase the excitement of particularly tense scenarios, players may wish to include the possibility of critical hits.

(D8.1) PROCEDURE

If 20 or more damage points (including those scored on shields or reinforcement and those that penetrate) are scored against a given shield during any single impulse, that ship must roll two dice to determine if a critical hit has been scored. [Andromedans: See (D24.0).]

Only one such roll is made during any given turn, even if these conditions are met several times during the turn.

(D8.2) EFFECT

The systems that suffer a critical hit, and the effect of those hits, are as follows:

2	=	Active fire control (D6.6) fails; ship switches to passive fire control (D19.0) until active system is repaired.
3	=	Battery failure. All batteries loose all power and cannot be used to hold power until repaired.
4	=	Transporter failure. Transporters cannot be used until repaired.
5	=	Power failure in the labs. Labs cannot be used until repaired. Emergency damage repair (D14.0) is impossible; any such repairs in progress are lost.
6–8	=	No critical hit.
9	=	Tractor beam breakdown. Tractors cannot be used until repaired. All existing tractor links are released. This could cause docking to be broken. Negative tractor can be used.
10	=	Shuttle launch controls jammed on one shuttle bay (select by die roll). No shuttles can be launched or recovered (from that bay, including launch tubes) until it is repaired. See (D8.24).
11	=	Maneuver restricted. Ship cannot exceed speed of eight, no HET or EM, and turn mode increased by one at all speeds.
12	=	Warp engine controls are damaged, and the ship cannot use warp energy for movement. One-half of the output of the warp engines can be used for other purposes; the other half of the power cannot be used for any purpose until repaired. See (D8.23).

(D8.21) DESTRUCTION: Critical hits never destroy any system. They only prevent its use until the critical hit is repaired. Note that repairs to critical hits are resolved separately from repairs to damage.

(D8.22) EFFECT: All critical hits take effect immediately.

(D8.23) WARP: In the case of a warp engine critical hit, the ship stops moving immediately. If impulse power was allocated to movement, the ship may use it to make one Tactical Maneuver during the remainder of the turn. The ship's Energy Allocation Form must be adjusted immediately by (D22.0). When resolving power loss by (D22.0), all energy allocated to movement may be cancelled immediately. An Orion could still double his engines, although he would still only be able to move speed one.

(D8.24) SHUTTLES could land and launch from a balcony, but could not move back and forth between the balcony and hangar bay. No mines can be dropped from that bay; no drone racks inside the bay could fire. Note that external bays are each a single bay, so that it is possible for a Tholian Black Widow to have nine jammed shuttle bay doors in effect at a single time. Shuttles can still crash aboard (J1.612) a ship with jammed shuttle doors. It is not possible to crash out of such a bay because (J1.635) says that even enemy shuttles launch by the normal rules.

(D8.3) REPAIR

(D8.31) PROCEDURE: All critical hits are repaired in the same manner, but if more than one is in effect, the owning player may only attempt to repair one of them during the turn. The ship's damage control parties perform this function. The procedure is to roll one die at the end of the turn. If the result 1-4, the hit is repaired; if the result is 5-6, it is not. The first roll to attempt to repair a critical hit can be made immediately at the end of the turn regardless of whether the hit occurred on Impulse #1 or Impulse #32.

Subtract one from the die roll for the second (and two for the third and subsequent) attempt to repair the same occurrence of the same hit. Outstanding (G21.132) and poor (G21.232) crews have a die roll modifier.

(D8.32) LEGENDARY OFFICERS: Legendary Engineers and Science Officers can use (G22.41) to make "independent attempts" to repair critical hits, but no two officers can work on the same critical hit. They must be in the box they are repairing, but would become casualties if ship combat damage struck their previous duty station. For a Legendary officer to repair fire control or maneuver critical hits he must be in a control box. Also see (G22.412). The rule about scoring casualties by hits on the previous duty station reflects that the "destroyed" box which the officer is repairing cannot be destroyed again (at least until he has repaired it).

(D9.0) DAMAGE CONTROL

Damage control is the ability of a ship to repair combat damage (and other damage) without a base or other support facilities. In game terms, damage control is used to repair the shields during a scenario, to repair key systems during a scenario, to repair other systems between the scenarios of a multi-scenario campaign game, and to repair critical hits. It is assumed that the damage control parties are, during the course of the game, also taking action to seal off any hull areas that rupture and to prevent any fires or electrical overloads from spreading. This is factored into the various charts and tables and can be ignored.

There are several types of repair and damage control available in the game. Repairs under (D9.2) can be used simultaneously with those under (D9.7) or (D14.0) although not on the same box. Repairs under (D9.7) and (D14.0) cannot be made simultaneously, even to different boxes. None of these procedures in (D9.0) can be used simultaneously with those in (G17.0).

ALL repair procedures repair one box at a time. Two points of power in (D9.2) damage repair will repair one shield box, not all of the damage to one entire shield.

(D9.1) DAMAGE CONTROL CAPABILITY

(D9.11) RATING: The current level of damage control ability is reflected in the damage control rating, which is the highest undestroyed box on the damage control track of the SSD.

(D9.12) DAMAGE: The damage control rating itself may be reduced by damage taken during combat. Generally, all damage control functions are based on the rating at the start of the turn. Emergency Damage Repair procedures (D14.11) also destroy boxes on the damage control track.

(D9.2) REPAIRING SHIELDS IN COMBAT

(D9.21) PROCEDURE: During any turn, energy may be allocated to damage control up to the highest number on the track. For each two units of energy allocated to damage control, the damage scored to one shield box may be erased at the end of the turn. You must specify which shield you are repairing during the Energy Allocation Phase. If the DC rating is reduced during the turn, energy applied at the start still counts for that turn.

EXAMPLE: A Federation heavy cruiser puts four points of power into damage repair for shields (the maximum it can due to its damage control rating of four) and, at the end of the turn in the Repair Stage of the Record Keeping Phase, two shield boxes are repaired.

(D9.22) PRIOR DAMAGE: Energy cannot be allocated to undamaged shields in anticipation of damage. Energy allocated to damage control is NOT used to reduce the effects of hits made during the turn but repairs boxes destroyed in prior turns.

(D9.23) RESERVE POWER: Reserve power cannot be used for shield damage repairs.

(D9.3) CRITICAL HITS

Damage control may be used to repair critical hits. See (D8.3).

(D9.4) CAMPAIGN REPAIRS

Between scenarios of the multi-scenario campaign games, the damage control rating of the ship may be used to repair various systems of the ship. (This procedure assumes that the ship can stop at a base or rendezvous with a repair ship between scenarios. In some campaigns where these facilities are unavailable, use of this section is prohibited.) This is done as follows; in the exact order given. In the case of power absorbers, see (D10.544).

(D9.41) DAMCON: All hits on the Damage Control Track are erased. (All repairs listed below are based on the ship's full damage control ability.) All shield hits are erased. A number of hits on control systems equal to the damage control rating are erased. All "Hull" hits are erased.

(D9.42) POWER: Multiply the damage control rating by three. This is the number of power system (warp engine, impulse engine, battery, and reactor) hits which can be erased.

(D9.43) WEAPONS: Multiply the damage control rating by two. This is the number of weapon system hits which can be erased. For definition of "weapon," see Annex #7D.

(D9.44) OTHER: Multiply the damage control rating by three. This is the number of non-weapon, non-control, non-power system hits that can be erased. Excess damage, sensor, and scanner, are treated as non-power/weapon/control hits for this rule.

(D9.441) The (D9.7) and (D14.0) repair capabilities are recycled, i.e., the repairs during the scenario are completed by this procedure before using (D9.4) at no cost and the full allowance is available for the next scenario.

(D9.442) Any hasty repairs are treated as in (G17.54). If repaired by this procedure, they count as a full repair. If not repaired by this procedure, they remain at their reduced status.

(D9.443) All damaged shuttles are repaired between scenarios of a campaign and do not count against other repair limits or capabilities.

(D9.444) The ship's HET bonus is automatically restored by these repairs provided the ship is not crippled (S2.4) after completing them. A ship's breakdown rating (C6.544) can only be restored by an overhaul in a campaign.

(D9.45) SPECIAL: Cloaking devices and UIMs destroyed during the previous scenario are replaced if the ship has access to a repair facility (repair freighter, mobile base or larger base). Each counts as one weapon repaired. See (D6.522) and (G13.164). Armor can be repaired as part of (D9.44) repairs if the ship has access to a starbase, fleet repair dock, or other repair facility able to dock it internally.

(D9.46) SUPPLIES: See (U1.0) for additional rules on resupply between scenarios of a campaign game.

(D9.47) NO REPAIR FACILITY: If no repair facility is available, the ship can use the remainder of its (D9.7) and (D14.0) allowance between scenarios but cannot make the other repairs listed in this section. See also (G17.13).

(D9.5) LIMITATIONS

No damage control procedure can ever be used to increase the number of shields or other systems above the number originally shown on the SSD for that ship. That is, damage control can only repair systems; it cannot build new ones.

(D9.6) CARRYOVER

Any damaged systems that damage control does not repair after one scenario may be repaired after later ones. A system does not have to be repaired in the interlude immediately following the scenario in which it was damaged, but remains inoperable until repairs are made.

(D9.7) CONTINUOUS DAMAGE REPAIR

(D9.71) PROCEDURE: All ships (including bases and PFs) have a limited capability to repair damaged systems during a scenario. This system allows a ship in combat to repair one or two critically needed systems as the battle proceeds. This repair is within the limits of (G17.33).
(D9.711) Each ship generates (without any cost) a number of repair points equal to its damage control rating on each turn. These points can be used to repair destroyed equipment. The cost of repairing a destroyed system is shown on the Cost of Repair Chart in Annex #9.
(D9.712) This rule (D9.7) can be used to repair shields. While this makes shield repair faster, note that (D9.74) limits the use of (D9.7) and the player must seriously consider where these repairs can most effectively be used. This rule can be used along with (D9.2) although not on the same specific box.
(D9.713) The attention of desperate players is directed to Hasty Repairs (G17.5).

(D9.72) POINTS: The points are "earned" at the start of the turn (equal to the damage control rating at that point) in the Energy Allocation Phase. They must be allocated to repair specific systems at that point. If no systems have been destroyed, no points can be accumulated. Because (G17.33) only allows five repair points to be allocated to a given system box on one turn, and since (D9.74) limits repairs to one system box at a time, a ship may not be able to use as many repair points as it can generate. Note: This system can be used to repair shields, and points can be used for that purpose before any internal systems are destroyed, but this is an inefficient use of the system.

(D9.73) EFFECT: The system under repair is considered to be repaired at the end of the turn when sufficient repair points were allocated. No system can be repaired on the turn it is destroyed.

(D9.74) CARRYOVER: In many (if not most) cases, the ship cannot generate enough repair points to repair a given system box in a single turn. (Most cruisers would generate four points, while most heavy weapons cost eight points or more to repair.) In this case, the ship can accumulate points toward the repair of a given box over a period of several turns.
(D9.741) A ship can only accumulate points toward the repair of one system box at time and must complete or abandon the repair of a given system before it can expend points toward the repair of a different system. If the repair of a given system is abandoned, the previously accumulated points are lost but the system can be repaired later. Repairs can only be abandoned during the Energy Allocation Phase by not allocating points to continue a multi-turn repair. If a frigate (damage control rating of "2") allocated two points to repair a phaser-3 (two points to repair), the repair will be completed at the end of that turn, so it could not be abandoned. If the frigate allocated two points to repair a phaser-1 (five points to repair), it could abandon that repair at the start of the second (or third) turn. Note that if the frigate allocated one point to complete the repair of the phaser-1 on Turn #3, it could allocate a second point to begin repair of a phaser-3 that turn as well, and then abandon the repair of the phaser-3 at the start of the following turn.
(D9.742) When sufficient points have been accumulated to repair one box, the ship can immediately begin accumulating points to repair another one during the same turn. For example, on Turn #3 a ship with a DamCon rating of four accumulates four points for repairs and spends them all on a phaser-1, which takes five points. On Turn #2, the ship accumulates another four points and spends one to complete the phaser-1, the second to repair a hull box (which costs only one repair point) and then applies the other 2 to begin the repair of a disruptor.

On the other hand, the B10 with a damage control rating of eight generates eight repair points per turn but can only apply five to any one system and can only work on one system at a time. Since it costs ten points to repair a Range-40 disruptor, this will take two turns. However, it would be more efficient to (on the first turn) spent three points to repair a drone rack then the other five on a disruptor, then, on the second turn, spend five points to finish the disruptor and three to repair a transporter. Even so, the B10 can only repair eight system boxes and might not want to waste one of these on a mere transporter.
(D9.743) Weapons that have "cool-down" periods that are destroyed on the turn they fired can begin repairs on the following turn, i.e., while cooling-down. This means that a Hydran Dreadnought could have a fusion beam destroyed on the turn it was fired, repair it on the following turn while it is cooling, and arm and fire it on the third turn.

(D9.75) SIMULTANEOUS REPAIRS: This procedure cannot be used on the same turn on the same unit as repair conducted by a repair facility (base, repair ship, or FRD) under (G17.0) or with (D14.26).

(D9.76) LIMITATIONS: During a given scenario, a ship can never repair more system boxes by this procedure than its original damage control rating. This system cannot repair damage control or excess damage hits. Each shuttle (as opposed to a damage point on a shuttle) on which CDR repair points are applied counts as one "system box" repaired, and can continue to apply repairs until the shuttle is fully repaired. If the repair is abandoned, it still counts as one of the unit's allowed repairs and the shuttle will be repaired to the point where the repair was abandoned. Repairs by deck crews are not part of EDR or CDR. Repairs abandoned before they are complete do not count (exception, shuttles). Shield boxes repaired under this procedure do count as repaired systems, i.e., a ship with a damage control rating of four that repaired four shield boxes under this rule would not be able to repair any other systems during the scenario under these rules.

EXAMPLE OF SHUTTLE REPAIR: Two Kzinti AAS fighters, each with one damage point remaining, land on a Kzinti Light Cruiser. The Light Cruiser applies four repair points to one of the fighters, repairing four points of damage, while its two deck crews (J4.814) work on the other fighter, repairing two points of damage (J4.818). At the start of the second turn the Kzinti player wants to continue repairing the fighter the deck crews are not working on (it would still count as a single repair), but determines that it needs to repair one of its disruptors and abandons the repair. The fighter has five damage points and the Light Cruise has used one of its four allowed repairs. The deck crews continue working on the other fighter this turn, repairing another two points of damage. (Note: Deck crews can begin their repairs mid-turn when the fighter landed, but this is not done in the above example for simplicity, and could complete repairs on the other fighter later on.)

(D9.77) SUBSEQUENT REPAIRS: If a given box is destroyed, repaired, and then destroyed again, repairing it a second time counts as another box repaired under the limits in (D9.76).

(D9.78) SELF-REPAIR: This procedure can only be used by the unit on itself. It cannot be used by a ship or base on a unit docked to it. It can be used on the shuttles (including fighters, web anchors, cloaked decoys) of the ship.

(D10.0) POWER ABSORBERS

The Andromedans do not use shields. Instead, they use power absorber (PA) panels. These absorb the energy of enemy weapons (up to a limit) and prevent it from damaging the ship. This stored energy can then be channeled into the ship's batteries.

A given ship cannot have both shields and PA panels; the two systems are mutually exclusive and cannot work together.

(D10.1) DEFINITION

(D10.11) SSD: Each PA box on the SSD represents one power absorption panel. PA boxes are divided into "forward" and "rear" (or "aft") groups, known as "panel banks" or simply "banks". All of the PA boxes of a given bank are resolved as a single entity with the capacity equal to the sum of the capacities of the individual boxes (D10.32). See (D10.51) for damage to PA panels.

(D10.12) POSITION: The forward panel bank absorbs power from damage that would have hit shields #6, #1, or #2 on a ship with shields. For artistic purposes, the forward PA panels on some Andromedan ships are divided into two or three groups, but all are considered to be "forward," and they operate as a single panel bank (unless the rules for a specific unit say otherwise). The rear panel bank absorbs power from damage that would have hit shields #3, #4, or #5 on a ship with shields. The larger Andromedan bases have six panel banks, one corresponding to each shield arc. See (E11.354) PPDs.

Note that each panel bank, whether a given unit has two or six or some other number, counts as one "shield" for purposes of volley definitions (D4.22). Example: If direct-fire weapons damage from three different Galactic ships struck the forward panel bank of an Andromedan intruder on a single impulse from three different directions (through the #1, #2, and #6 "shield arcs") this would all be counted as a single volley for all purposes, including phaser damage (D4.34), leaks (D10.331), and disruptor leaks (D10.332).

(D10.13) HELLBORES: When an enveloping hellbore strikes an Andromedan unit, divide the total damage by the number of PA panel banks (two on most ships, six on the starbase) and drop any fractions (for purposes of the calculation). Apply this amount of damage to each bank of panels (distributed among panel boxes of that bank at the choice of the Andromedan player). The Andromedan player then distributes any remaining points (i.e. the fractions dropped earlier) from the original weapon strength to the banks of his choice, no more than one point per group.

EXAMPLE: A Hydran Knight-class destroyer fires its two hellbores at an Andromedan Cobra at a range of seven. The die rolls of seven and five are adjusted by a +2 die roll shift from electronic warfare, changing them to a seven and a nine, resulting in one hit for thirteen points. The Andromedan player notes that the Cobra has two PA panel banks and scores six points (13 ÷ 2 = 6.5 = 6) on each bank, then scores the remaining (thirteenth) point on the rear bank.

(D10.14) ENVELOPING PLASMA: If an enveloping plasma torpedo strikes a ship equipped with power absorbers, divide the warhead strength by the number of panel banks and drop any fractions (for purposes of the calculation). Score this number of points on each bank (distributed among panel boxes of that bank at the choice of the Andromedan player), then distribute any remaining points (i.e. the fractions dropped earlier) to banks of the Andromedan player's choice but no more than one point per bank. See (FP5.33).

(D10.15) PHASER DIRECTIONAL DAMAGE: Damage which penetrates or leaks through a given panel bank must be scored on a phaser capable of firing in the direction the damage was received from. See (D4.321).

(D10.151) In the case of direct-fire weapons, the phaser must be capable of firing at the unit which scored the damage.

(D10.152) In the case of seeking weapons, the phaser must be capable of firing through the same (60°) shield arc struck by the weapon.

(D10.153) In the case of hellbores (E10.43) and enveloping plasma torpedoes (FP5.32), the phaser must be capable of firing through the panel bank(s) which leaked damage.

(D10.154) In the case of a single volley containing damage from more than one source, resolve the damage as per (D4.34).

(D10.2) OPERATIONS

To operate, PA panels must be charged. They can be charged to standard level or to reinforced level. It costs more energy to charge the panels to reinforced level, but they can then absorb more damage (ten points per panel instead of six). See (D10.3) for details.

(D10.21) POWER: The power required to operate the ship's PA panels varies with the class of the ship, as follows:

PA PANEL COST OF OPERATION

SHIP TYPE	STANDARD	REINFORCED
Desecrator (starbase), Battle Station	18	36
Devastator ✯	14	26
Base Station	12	18
Dominator, Dominatrix, Dictator, Dominion, Demon, Demolisher ✯	10	18
Intruder, Infestor, Imposer, Instigator, Conqueror, Shiva. ✯	6	10
Conquistador, Missionary, Krait, Exploiter, Ravager, Destructor. ✯	5	8
Large Satellite Ship: Mamba, Python, Anaconda, Queen Snake, Eliminator.	5	8
Medium Satellite Ship: Cobra, Eel, Terminator, King Snake, Diamondback; Satellite Base.	4	6
Small Satellite Ships: Viper, Courier, Bull Snake, Rattler, Repair Sled, Cargo Sled, Mine Laying Sled, Ore Gathering Sled, Gun Sled, Mobile Ops Sled. ✯	3	4
Small Ground Bases: AGB2, AGBT, AGSO, AGMS, GPB, PCB, AGMG, AGWS, AGSA, AGPS. ✯	1	2
Mobile Platforms: MWP, MCP, MTP, MEP, MGP, MMP. ✯	0.6	1

The above chart includes all Andromedan ships in *Module C2*, as well as many ships in other products. Other modules include more Andromedan ships and a chart of their PA panel costs. Also, each Andromedan SSD lists the energy cost for operating its own panels.

(D10.22) LEVEL: To charge all of the panels to standard level or reinforced level, the designated power must be allocated. This power is sufficient to operate all of the panels on the ship; it is not rated as "per panel bank" or "per panel box." All banks of panels on a given unit must be operated at the same level (standard or reinforced); some could be dropped (D10.25).

The current level of PA panel operations (dropped, standard, reinforced) and any changes are detectable; see (D3.541). If using tactical intelligence (D17.0), this is detected at Level B.

In addition, the total amount of power in each panel is also detectable in some cases; see (D10.56) and Tactical Intelligence Level I.

(D10.23) SOURCE: The power to operate PA panels can come from any source. Power must be allocated every turn. If no power is provided, the panels are not charged and cannot absorb damage (and will release any points they are holding). See (D10.422) and (D10.423).

(D10.24) RESERVE POWER: Reserve power could be used to activate PA panels (H7.2) although not after damage has struck the ship (H7.346). Reserve power can be used to raise the panels to reinforced level even after damage strikes the ship; see (H7.346).

(D10.25) DROPPING PA PANELS: One bank of PA panels (D10.12) could be deactivated (D3.5) for a period of 1/4 turn or longer. (As with shields, an Andromedan ship can deactivate any or all of its banks; each bank is deactivated and reactivated independently of the others.) This can be detected under (D3.541). When deactivated, any and all energy in that bank is released as in (D10.424). Also note, starbases (and others with more than two panel banks) could drop one or more of their panel banks. If a panel bank is dropped during a turn and later during that same turn restored, additional power is not required (and cannot be expended) for the panels; the original allocation is adequate for the entire turn even if the panels are down during part of it.

(D10.26) CHANGING LEVELS: A unit operating its panels at reinforced level could reduce them to standard levels during the Drop Shields Step of any impulse. Any power released is treated as per (D10.424).

A unit operating its panels at standard level could increase them to reinforced level during the Raise Shields Step of any impulse or during the Direct Fire-Weapons Stage using reserve power (H7.346).

This change in level may be detectable as per (D3.541) and must be announced if detected.

(D10.261) If panels are changed in this manner, they must stay at the lower level for a minimum period of 1/4 turn (eight impulses).

(D10.262) This time requirement is separate and distinct from the panel dropping interval in (D10.25).

For example, an Andromedan ship could reinforce its panels on Impulse #8, then reduce them to standard level on Impulse #16 (or any time before), then drop (deactivate) them altogether on Impulse #18, then (while they are dropped) restore them to reinforced levels on Impulse #24 (not less than eight impulses after reducing their level) (they would still hold no energy until they were raised), then raise (reactivate) them again (now at reinforced levels) on Impulse #26.

(D10.263) If panels are reduced during a turn and later during that turn restored to reinforced level, additional operating power is not required (and cannot be expended) for the panels; the original allocation is adequate for the entire turn even if the panels are at standard levels during part of it.

(D10.27) TIMING: Changes in the level of PA panels, are made in the Operate Shields Step of (6B7) Marines Activity Stage [exception, (D10.24)]. Within that step, panels may be deactivated or activated, reduced to standard level or raised to reinforced level. The list here provides the sequence by which this is done. If you de-activate a set of panels on a ship on the same impulse that you activate the opposite panels energy released from the deactivated panels is resolved in accordance with (D10.42).

(D10.3) EFFECT OF PA PANELS

(D10.31) ABSORPTION: The panels can absorb damage points from any type of weapon (including mines, etc.) or natural hazard (asteroids, novas, nebulas, pulsars, etc.). Any damage which cannot be absorbed by the PA panels (in excess of their capacity) is resolved as internal damage. The panels must absorb energy if they can.

Andromedans cannot choose to begin a scenario with their panels already holding energy. If the panels of an Andromedan ship are not operating, they cannot be degraded, and they will not absorb any damage. They can still be destroyed on "drone" hits scored on the ship.

See (D10.6) for a complete example of PA operations.

(D10.32) CAPACITY: Each PA panel box has six "capacity points" when operated at standard levels and ten when at reinforced levels. Each panel bank has a total capacity equal to the sum of the capacity points of the boxes in that panel bank. PA panels gradually lose these capacity points (and their ability to absorb damage) during combat. Energy in a PA panel bank is not allocated to specific SSD boxes; the bank is considered to be a single large absorber.

The degradation status of an Andromedan ship's panels is known whenever it appears on the map if not using (D17.0) Tactical Intelligence. If TacIntel is used, degradation status can be detected at Level I, the same level that the energy in the panels can be detected.

(D10.321) When any volley of damage is received, 20% of this damage (round fractions of 0.500 and more up, 0.499 and less down) is resolved as "permanent" damage, reducing the capacity of the panel bank, and the remainder is stored in the panels (or exceeds their capacity) as per (D10.31) above. The reduction in panel capacity is calculated and applied before storing the points. All damage received by a given panel bank during a single "Stage" combine their fractional damage points for purposes of rounding to calculate panel degradation.

(D10.3211) This degradation is not applied when the panel picks up power from another destroyed panel box or from a panel bank which was voluntarily deactivated or reduced in level, but is applied to power from enemy (or friendly) weapons, asteroid damage, etc.

(D10.3212) Damage from some types of terrain causes degradation, while damage from other types does not.

The following types of terrain-induced damage DO NOT cause degradation: Nebulae (P6.31), heat zones (P10.6).

All other types of terrain-induced damage do cause degradation, including asteroids (P3.2), rings (P2.223), pulsars (P5.2), the WYN radiation zone (P7.7), gravity waves (P9.311), dust clouds (P13.2), radiation zones (P15.7), and any other types which do not specifically say that they do not. Novae (P12.5) and ion storms (P14.0) are a combination of other terrain effects, all of which are judged separately.

(D10.3213) If panels are turned off, they cannot absorb any damage (except to be destroyed by "drone" damage points on the DAC) and cannot suffer degradation. Operating panels suffer degradation even if they cannot absorb any of the damage from a given volley of fire which struck them.

(D10.322) The reduction in capacity is distributed as evenly as possible among the boxes of a given panel bank, with any odd points distributed at the Andromedan player's option.

(D10.3221) The reduction is applied to the number of capacity points a given panel box has at the current operating level, so a three-point reduction would leave a box with three points at standard levels and seven at reinforced levels.

(D10.3222) Repairs, which are on a per box basis, could result in the boxes of a given bank being of radically different strengths. Damage must be applied in such a way that all of the boxes of a given bank are as nearly equal as possible, so a newly repaired box (which would be several capacity points stronger than the others in the bank) would take all of the degradation for the bank until it was reduced to the strength of the other panels.

(D10.323) If a panel box is destroyed, its remaining capacity points are destroyed with it.

(D10.324) If the degradation as a result of damage causes the capacity of the panel to be less than the number of energy points it is holding (and assuming that it is already at reinforced levels or cannot be raised to those levels for some reason), the excess power is released (D10.42). The released power is resolved (D10.424) after the internal damage (if any) from the volley that caused the degradation. Note, degradation is scored even if the panels are full when the damage hits, and will as a result release additional damage points to be scored as part of that volley.

(D10.33) DAMAGE PENETRATION: PA panels were designed to resist the amount of damage expected in combat with the Galactic powers. A reinforced level was provided for emergency use, but this level had a drawback of not being a perfect barrier to damage. The result of the drawback is a tendency to "leak" internal damage into the ship whenever a large volley is scored. All damage from a given volley, whether caused by a leak or by exceeding the capacity of the panels, is resolved as a single volley. Leak points scored versus Andromedan units with armor are still scored against hull boxes, circumventing the armor. This is an effect of the way the PA panel system operates. Damage caused as a result of "leaks" does not count for purposes of victory (S2.21) unless the ship is crippled. Such damage does count for crew casualties (G9.2). Note that it is possible for enveloping weapons to score leak damage on both the front and rear panels with the same salvo.

(D10.331) Whenever a single volley scores a total number of damage points on a given panel bank equal to three points per box AND the panels must be reinforced to hold the last point of that volley (even if they are already at that level), that last point is scored as internal damage, i.e. as a "leak" point. The leak point is not absorbed into the panels and does not produce degradation under (D10.32). This leak

can occur only once per volley, regardless of how many damage points have been scored.

Obviously, if the panels are not reinforced for some reason, the excess points would penetrate as normal damage and there would be no "leak" point. If the panels can hold the damage at standard levels (even if they happen to be reinforced), there is never a leak, except by (D10.332).

EXAMPLE: A Viper has four panels in its forward bank. A Federation DD scores three photon hits (24 points) and three points of phaser damage in a single volley. This 27 points is more than three points per box (twelve points) and also requires the use of reinforced panels (since the bank could only hold 24 points at standard levels). This volley produces one point of "leak" damage which is scored as internal damage. If, for whatever reason, the Viper did not reinforce its panel bank, three points would exceed the capacity of the panels and be scored as internal damage, but there would not be a "leak" point.

(D10.332) For reasons that were never fully understood, PA panels are particularly vulnerable to damage from disruptors, even when at standard levels. Whenever a volley (striking the panels, before it is resolved) contains damage from disruptors equal to two points per box of that panel bank, the last point of disruptor damage is scored as internal damage. It is not absorbed into the panels and does not produce degradation under (D10.32). This leak can occur only once per volley, regardless of how many damage points have been scored.

This "disruptor leak" point is instead of, not in addition to, any "reinforce level leak" from (D10.331). The remainder of the volley, including disruptor and other damage, is then resolved normally, including degradation.

EXAMPLE #1: A Klingon F5 fires on a Viper (from the front), scoring one hit with an overloaded disruptor from Range 4. This causes eight points of damage, and as that is equal to two points per panel, there is one point of "leak" damage.

EXAMPLE #2: A Klingon C8 fires six disruptors and six phasers at an Andromedan Python, scoring 32 damage points with disruptors and 23 damage points with phasers. As the 32 points exceeds the 2x6 threshold, one point is scored as a disruptor-induced leak. The remaining 54 damage points cause eleven points of degradation. The remaining 43 points are absorbed by the panels, which must be at reinforced levels to do so. However, as there has already been one point of disruptor-induced leak, there is not a second point of leak due to the reinforced level.

(D10.333) All leak points (unless the volley also includes internal damage, in which case this rule is ignored, i.e., leak damage is combined with non-leak damage into a volley of internals if the panels are penetrated) are scored as "hull" hits (not non-hull hits listed on Annex #7E) if there are undestroyed hull boxes on the ship. If there are no remaining hull boxes, use the DAC normally (and combine the leak point with other internal damage from the same volley, if any, into a single volley).

(D10.4) ENERGY RESOLUTION

(D10.40) GENERAL

(D10.401) Each damage point absorbed by PA panels becomes, in effect, one unit of energy. Once in the panel, it can be dissipated into space (D10.412), transferred to the batteries (D10.411), or released (D10.42). If released (either because the panel box was destroyed or because it was not powered), each point of power then reverts to one damage point (D10.424). The amount of energy in each bank of panels is recorded separately.

(D10.402) As each PA panel box will only hold a specific amount of power, the Andromedan unit must pay careful attention to how much power his panels are holding. If his panels are full (from damage previously received) and cannot be emptied (by one means or another), any damage scored on them will be excess to their capacity and will be scored as internal hits (i.e. this would not be a good time to charge that Federation DN over yonder).

(D10.403) Note that power released from destroyed panel boxes or unpowered panel banks can be absorbed by other panels (D10.424), while damage scored on panel banks already at their capacity cannot be transferred and is treated as internal damage.

(D10.404) Any energy in a PA panel bank which is not transferred, dissipated, or released remains in the panels and carries over from turn to turn.

(D10.405) Andromedan ships must always use fractional accounting (B3.2) to keep more accurate records and to minimize power used for "legitimate purposes" as required by various rules.

(D10.41) REMOVING ENERGY FROM PA PANELS: Energy held in PA panels may be removed by one of several methods. Power from the PA panels can only be transferred by the rules in this section or to an energy module (G20.0). It cannot be used directly to power weapons or other equipment. Exception: Mauler; see (D10.414), (E8.5), or (R10.6).

(D10.411) At the end of each turn, the Andromedan player may transfer energy held in the PA panels to the batteries on the same ship. [Remember that Andromedan batteries have a higher capacity; see (D10.55).] Ten percent (10%) of the power (current contents, not capacity; round fractions of 0.5 or more up, others down) in the panels can be transferred out by this method. Note that power in excess of the capacity of the batteries cannot be transferred to them. This power can be used on the next turn. The 10% (or less at owner's option) transfer to the batteries is resolved before (D10.412). Power is transferred from each panel bank separately (10% from each bank, not 10% of the total from all banks). If there are four or fewer points of power in the bank, the 10% proviso is ignored and one point can be transferred to batteries. Only whole points of power can be removed from PA panels, fractional points of power cannot. A given panel always holds one point, not 1.2 points or 0.3 points.

(D10.412) At the end of each turn, each PA panel bank can "dissipate" to space one point of power for each PA box in the bank. A PA bank cannot dissipate more power than it has, nor can it dissipate power held in another bank. This power is simply lost. It is removed from the panels and can never be used for anything else.

(D10.4121) The player is not required to dissipate all of (or any of) the power held in his panels. Only PA panels that have energy in them can dissipate power to space. See (D7.552) in the case of a captured Andromedan ship.

(D10.4122) Dissipation of power can be detected as per (D3.54), and the amount dissipated must be announced if detected. If using tactical intelligence, see Level E.

(D10.4123) PA panels can dissipate two units of energy per turn if they spend the entire turn in an atmosphere hex.

(D10.4124) PA panels cannot dissipate power in a heat zone (P10.6), a radiation zone (P15.7), or while penetrating the WYN radiation zone (P7.7).

(D10.4125) PA panels of ships docked internally (in a base, FRD, mothership, etc.) cannot dissipate energy to space.

(D10.413) Energy from the PA panels cannot be used directly to power the panels themselves. Power from the PA panels that was transferred to the batteries by (D10.411) or (D10.424) could be used for this purpose (and various others).

(D10.414) Andromedan maulers can draw power directly from their panels. See (E8.5). Since there is no particular restriction against firing the mauler weapon (with the maximum allowed power) at an innocuous piece of space debris (that is not even shown on the map), these ships have a dramatic advantage in clearing their PA panels. (Any weapon can be fired to use up power, but maulers can draw directly from the panels and use up far more power.) Note: The "20 point limit" in previous editions applies to the Terminator (R10.6) and was moved to that rule to facilitate the later publication of other Andromedan mauler classes.

(D10.415) Power from the batteries must be used for legitimate purposes, but the absolute minimum amount of power must be used. For example, tractor beams could grab a meaningless rock (D10.711), but could not use power for a meaningless "tractor auction" (and could not have such an auction with another Andromedan ship or a ship "allied" with the Andromedans). Fractional accounting must be used (B3.2) to minimize power spent (D10.405).

(D10.42) RELEASING ENERGY FROM PA PANELS: Energy held in PA panels can be involuntarily released by two methods.

(D10.421) If a PA panel box is destroyed, any power held in it is involuntarily released (D10.424).

(D10.422) If the owning player reduces the energy level of a power absorber bank (from reinforced to standard or from standard to unpowered), any excess energy is treated as energy released from a destroyed PA panel box (D10.424).

(D10.423) An Andromedan ship cannot voluntarily release power from PA panels by (D10.422) unless that power will not cause internal damage (D10.424). Releasing energy which can cause internal damage by voluntarily reducing PA panel levels or dropping them can

only be done during Energy Allocation and only if the ship is eligible for self-destruction or if there is not enough energy to power the panels (which have priority over any other power needs except life support). A player cannot be forced to drop PA panels by (D22.0).

(D10.424) Released energy from PA panels must be picked up by other power systems on the ship (within their capacity to hold power) at after all volleys in a given damage stage [either (6A3) or (6D4)] are resolved, strictly in the following order of priority:

1. Other PA panel boxes of that same panel bank.
2. An Energy Module (G20.41) in the hangar of the ship which is releasing the power.
3. Other PA panels of the ship.
4. The batteries of the ship OR the panels of a satellite ship in the hangar (G19.25).

This is a strict order of priority. Energy cannot go to a lower item on the list unless all higher priority items are full or unavailable. For example, energy cannot go to an energy module (#2) if there is capacity available in the same panel bank (#1).

Any released energy which cannot be picked up by one of the above systems is applied to the ship as internal damage (resolved as a separate volley with no phaser directional restrictions). Note that if a PA panel is destroyed by this volley of internal damage, energy released as a result will itself be resolved as another separate volley (which could destroy another PA panel . . .).

Power unable to return to batteries (D10.72) ignores step #1 but treats all panels on the ship equally under Step #3.

(D10.5) OTHER CONDITIONS AND RESTRICTIONS

(D10.51) DESTRUCTION: PA panel boxes are destroyed on "drone" hits. They count as internal damage for victory purposes. A damage point which penetrates or leaks through a PA panel bank and scores a hit on a PA panel must be scored on a panel box of that specific bank. Unpowered or dropped PA panels can be destroyed by hit-and-run raids (D7.8). Active PA panels can be hit-and-run only if there are unpowered or dropped panels elsewhere to transport through.

(D10.52) TRANSPORTERS: Due to their nature, transporters can be used to transport out of, but not into, a ship equipped with PA panels, i.e. a transporter behind a PA panel operates normally, while one outside a PA panel will not. Exception: see (D10.525) and (D10.524). If the bank is degraded to 0%, transporters (including enemy transporters) can operate through it.

(D10.521) Enemy boarding parties trying to board an Andromedan ship would find themselves reduced to energy and stored unless the panels covering their line of transport were not operating. (These marines, or any transported object, could not later be restored.) See (D10.523).

(D10.522) After all of the power absorber boxes in a given bank have been destroyed, or if no power has been allocated to charge them, or if that bank has been dropped (D10.25), transporters may be used to board the ship through the arc covered by that bank.

(D10.523) The power involved in transported objects (even a thousand of them) is negligible compared to weapons, and even a power absorber charged to capacity could absorb an infinite number of transported objects (e.g. boarding parties); that amount of power would then be too small to be drawn and used by the ship.

(D10.524) Transporters can be used between two Andromedan ships, even if one or both have PA panels operating, as long as both ships power and operate one transporter for each individual transporter operation. (Obviously, if the receiving ship has its facing panels down for whatever reason, it would not need to power a transporter.)

(D10.525) Andromedan ships can use transporters to launch and recover satellite ships (G19.0) or to conduct hit-and-run raids (D7.8), with their PA panels active. Andromedan mother ships do not have to drop PA panels to launch or recover a satellite ship; neither do the satellite ships being transported. If an Andromedan ship were allied to a Galactic ship, the Andromedan ship could use its transporters to move people or objects between ships; otherwise it would have to drop a bank of panels to allow the Galactic ship to use its own transporters.

(D10.53) WEBS: Power absorbers cannot absorb power from webs.

(D10.54) DAMAGE CONTROL: Damage control on Andromedan ships uses the following rules.

(D10.541) Damage control (D9.2) can be used to repair lost capacity of a power absorber bank (D10.32). Every two points of power allocated under (D9.2) repairs one degradation point on one box, NOT the entire capacity of a PA box. Repairs may be applied to any box, and if more than one capacity point is repaired in a given turn, these can be applied to the same box or to different boxes. See (D10.3222) and (G19.26).

(D10.542) Repairs under (D9.2) cannot be used to repair destroyed PA panel boxes on the SSD during a scenario, although repairs under (D9.7) can be. Destroyed PA panels repaired under (D9.7) will have their full absorption capacity available when the repair is completed.

(D10.543) Emergency damage repair (D14.0) can be used in an attempt to repair destroyed PA panel boxes, and repaired boxes will have their full absorption capacity available when the repair is completed. See also (D10.546). [This rule is correct; (D14.23) in the 1991 printing of *Advanced Missions* is wrong.]

(D10.544) Between the scenarios of a campaign game, a number of PA panel boxes equal to twice the damage control rating can be repaired under (G17.133). This is a separate category from other repairs under (D9.4). All lost absorption capability is restored between scenarios under (G17.132). The repair rate for use in (D9.4), covering repairs between scenarios, is established in this rule.

(D10.545) Repairs under (G17.0) are not affected and can be conducted as per those rules. Repaired PA panels (including destroyed and degraded panels) will have their full capacity restored.

(D10.546) The ship could execute (D9.7), (G17.0), or (D14.0) repairs on an undestroyed (but degraded) box to restore its original capacity; this would count as one "repair" under the respective system. (This is a partial exception to the normal rules that prohibit repairing something that has not been destroyed, but the Andromedans are unusual in many respects. There are few SSD boxes in *SFB* which can be damaged without being destroyed.) Additional degradation scored on the panel under repair will also be cleared when the repair is completed. If the panel is destroyed while this form of repair is being performed all repair points applied to the panel are lost. In this latter case the ship is considered to have expended one of its (D9.76) repairs and a unit with repair systems (G17.0) to have expended one of its (G17.26) repairs.

EXAMPLE: Turn #1: the PA panels absorb power and degradation. Turn #2: four points of repairs are allocated for repair of the panel. During Turn #2 additional damage is scored on the panels. Turn #3: an additional point of repair is allocated to the panel. During Turn #3, additional damage is scored on the panels. At the end of Turn #3 the panel is "repaired" and all degradation scored on it during Turns #1, #2, and #3 is repaired. Note that only one PA panel box is repaired, but the Andromedan player can have allocated any "odd" degradation point to that panel. Since (D10.322) requires that damage be distributed between the boxes of a given bank as evenly as possible, this should only be one degradation point more than any other single box. Two or more might be at the same level at the time the repair is made.

(D10.55) BATTERIES: The batteries on Andromedan ships can hold five units of power each (H5.5), which gives them an advantage in absorbing power from the panels. The Andromedan player may, at his option, determine how much power is held in his batteries at the start of a scenario. See (D18.14). Power in batteries that are destroyed is lost, not released.

(D10.56) DETECTION: If the panels are charged, this can be determined from outside and must be announced, but the level (and any change in level) can be detected as per (D3.54) or Tactical Intelligence Level B. In addition, the total amount of power in each panel is also detectable at Tactical Intelligence Level I (at a range of ten hexes if not using TacIntel) and must be announced as it changes throughout the turn. See also (D10.4122). The level of degradation of Andromedan PA panels is always known; see (D10.32).

(D10.57) LEAKY SHIELDS: Players using (D3.6) should allow an identical proportion of the damage points to penetrate the PA panels in addition to (D10.33). Leaks under this rule are resolved by the DAC.

(D10.6) ANDROMEDAN COMBAT EXAMPLE

This example is based on Scenario (SH46.0) and covers most of the unique rules used by the Andromedans, but focuses on the PA panels in particular.

An Andromedan Conquistador has six PA boxes forward and four rear. None are holding any power. On an impulse during the first turn, fifteen damage points (from a D7) are scored on the forward three shield-arcs. [Of these, nine are from long-range disruptor fire, but this does not exceed the disruptor threshold.] These fifteen units are treated as follows: First, 20% (three) are scored as permanent reduction (D10.321). This reduces three of the six PA boxes from 6+4 capacity to 5+4, giving the front panels a standard level capacity of 33 (down from 36). The other twelve points are absorbed into the front panel boxes and held there.

At the end of the first turn, one of these twelve points is transferred into the batteries (D10.411), reducing the total held to eleven. Then, each of the six panel boxes dissipates (D10.412) one point to space, leaving five in a panel bank with a capacity of 33.

On Turn #2, the Andromedan allocates four points of power to damage control, which will repair two of the capacity points in the front bank (D10.541). As is the case when repairing shields, the restored capacity points will not be available until the end of the turn.

On Impulse #6 of Turn #2, a Klingon D7 scores three hits with overloaded disruptors from Range 4, a total of 24 points, plus fourteen points of phaser damage. The disruptor volley exceeds the threshold (6x2 = 12) for disruptor damage, so one point is scored as internal damage (D10.332) and the other 23 combine with the fourteen phaser damage points into a 37-point volley. Of this volley, 20% (7.4 rounded down to seven) is scored as permanent reduction of the capacity (now 26, down from 36) and the other 30 points is scored as normal damage. This exceeds the 21 points of available capacity (26 minus the five held from last turn), but the Andromedan player uses reserve power (H7.346) to increase the panels to reinforced level (six panels at ten points, minus the ten points of degradation leaves a capacity of 50 in the front panels) and absorbs all 30 points (his front panel bank now holds 35 points). Even though the volley qualified for one “leak” point under both (D10.332) and (D10.331), only one “leak” point is scored. The one “leak” point is resolved as a Hull hit.

On Impulse #10, a type-I drone (twelve-point warhead) scores a hit on the rear panel bank. Of this, 20% (2.4 rounded to two) becomes permanent damage (reducing the reinforced capacity to 38); the remaining ten points of drone damage is absorbed. The Andromedan fires, severely damaging a Klingon D5, and then displaces away on that same impulse.

At the end of Turn #2, the Conquistador has 35 points in his 50-point front panel bank. He transfers four into the battery (leaving 31), then dissipates six to space, leaving 25. Also, the two capacity points repaired during Turn #2 increase capacity from 50 to 52. The rear panel bank holds ten points of power with a capacity of 38. The Andromedan player transfers one point to the batteries and dissipates four to space, leaving five.

During Turn #3, the Conquistador uses four points of power for damage control, which will repair two capacity points by the end of the turn. He moves away from the Klingon ships during this turn, not arming any weapons so that he can move at maximum speed. The Klingon D7 manages a long-range (Range 15) disruptor shot, but scores only two disruptor hits (six points, not enough to exceed the eight-point rear panel disruptor threshold) and four points of phaser fire. (The damaged D5 fires, but manages only one point of phaser damage.) The Klingon F5 also manages a disruptor hit (three points) during the same impulse, and since all fire against a given PA bank in a given step of the impulse procedure is combined into a single volley (total nine points from disruptors), scoring one leak point (a hull hit). The remaining thirteen points (eight from disruptors, five from phasers) score three points (20% of 13 = 2.6) of permanent damage on the rear panel bank (reducing it from 38 to 35) and ten are absorbed (the rear panel bank now holds fifteen).

At the end of Turn #3, the Conquistador has 25 points in his front panel bank. He transfers three to the batteries, dissipates six, leaving sixteen. Also, the two repaired capacity points increase the capacity from 52 to 54. The rear panel bank transfers two points to batteries, dissipates four to space, leaving nine in the bank, which has a total capacity of 35.

On Turn #4, the Andromedan begins to arm his weapons, but is not prepared to fight as his TRs and DisDevs won’t be armed until Turn #5. He does not spend energy for damage control as he can’t afford to. The arming costs him speed and allows the three Klingon ships to catch up, although they cannot reach overload range while overloading their disruptors. They fire in sequence. The D7 fires four disruptor bolts at Range 11, hitting the rear panel bank with three (total nine points, causing one point of disruptor leak, another Hull hit). The remaining eight points score two points of permanent reduction in the rear panel bank (dropping them to 33); six are absorbed (total fifteen in the panels). On a later impulse, the D5 (which had only two disruptors left but plenty of warp power) reached overload range and fired, but scored only one hit (six points); during the same impulse, the F5 scored one disruptor hit (three points), for nine points of disruptor damage (one point of leak, another Hull box; two points of degradation, capacity now 31; six points absorbed (holding 21).

At the end of Turn #4 has 21 points in the rear panel bank (capacity 31). The ship transfers two to battery and dissipates four, leaving fifteen. The front panel bank still has the sixteen points from last turn; two are transferred and six are dissipated, leaving eight and a capacity of 54 (net 46 available).

On Turn #5, the Conquistador completes the arming of his TR beams and DisDevs, allocates four points to damage control, and turns toward the Klingons. The Klingons, expecting this move, slow dramatically to use overloaded disruptors and heavy counter-jamming. Several drones are in flight, but the Conquistador dismisses them with two of his T-bombs. (The Klingons routed them to prevent a single mine from destroying them all.) The Conquistador fires his alpha strike at the D7 from Range 6, scoring 29 points of damage on the #2 shield, which barely survives due to reinforcement and reserve power. The three Klingon ships had wanted to fire on different impulses so as to gain the Mizia effect of their leaking shots, but all fired immediately (all face the forward panel bank) because the Andro had announced displacement (G18.31). The D7 uses his UIM and scores three out of four hits (eighteen points) plus eight from phasers. The D5 fires both disruptors from Range 4, burning out his UIM but scoring two hits with sixteen points plus five from phasers. The F5 (which has a classic oblique shot) fires from Range 8, scoring one hit (six points) plus five from phasers. The combined total of 58 points includes one disruptor leak point; the other 57 score eleven points of permanent damage (capacity reduced to 43, of which eight are in use), the remaining 46 damage points exceed capacity by eleven. [The normal leak effect (D10.331) doesn’t apply because the damage exceeds the capacity of the reinforced panels.] The eleven points of excess and the one point of disruptor leak are resolved as a twelve-point volley. This destroys one TR, one PA, two phasers, two warp, four hull, and two cargo. As the PA panel must come from the front bank (D10.51), the Andromedan player selects one of those with a capacity of seven. Its seven points of damage are released and picked up by the rear panel bank (now holding 22). The Andro displaces twelve hexes, over and behind the Klingons (which will force the Klingons to use HETs if they wish to maintain close pursuit). Four impulses later, the Conquistador transports his Cobra back toward the Klingons. The Klingons, unwilling to use HETs, execute normal battle turns toward the two Andro ships.

The Cobra unloads on the F5 at Range 3, catching him in the weak #5 shield. The Cobra does 34 points of damage, which crushes the sixteen-box shield and (after reserve power) does sixteen internals, enough to cause serious damage to the frigate.

At the end of Turn #5, the Conquistador has a five-box front panel bank with a capacity of 36. This panel bank is full. He transfers four points, dissipates five points, and two points are repaired by damage control. He is left with 27 points of power in a panel bank able to hold 38. His rear panel bank has 22 points of power, of which two are transferred to batteries and four are dissipated, leaving sixteen. The Cobra has no power in its panels.

On Turn #6, the Conquistador plots high speed and arms no weapons, intending to separate from the Klingons until he can clear his panels and repair his weapons. Damage control is working furiously on the destroyed panel box; the damaged TR will have to wait. Four points are allocated to repair capacity in the forward panels. The Cobra moves toward the D7, but has only his phasers available to fire. The Klingon ships would be willing to let the F5 take its chances with the Cobra and pursue the Conquistador, but because of their low speed cannot catch it. They concentrate fire on the Cobra.

The Cobra fires his phasers at Range 1, doing sixteen points on the #1 shield of the D7, not enough to penetrate. The D7 fires at the forward bank, scoring four hits with overloaded disruptors (40 points) and 23 damage points with phasers. The F5 contributes three points of phaser damage into the Cobra's rear panels. The D5 cannot fire his disruptors due to the UIM burnout, but contributes five points of phaser damage to the front panels. The three points of rear panel bank damage cause one point of degradation and the other two points are easily absorbed. The 68 points of forward panel damage is not so easily dealt with. Fourteen cause permanent reduction of the forward panel bank (40 is reduced to 26); the other 54 are resolved normally (disruptor leak ignored as the panels were penetrated, 26 to fill the panels, 28 excess to panels), resulting in 28 points of internal damage, destroying all weapons, all hull, all batteries, both impulse engines, the transporter, eight warp, and two PAs (their twelve points of energy then going into the rear panels).

At the end of Turn #6, the Cobra has fourteen points in his front panel bank and can dissipate two. He has fourteen in the rear panel bank (three boxes), which can dissipate three (leaving a capacity of seventeen). The Cobra is a wreck and the Klingons can destroy it at their leisure.

The Conquistador has 27 points of energy in the front panel bank. He transfers three to batteries and dissipates five, leaving nineteen in a panel bank able to hold 40 (having applied damage control on Turns #5 and #6). The rear panel bank holds sixteen, transfers two to the battery, and dissipates four, leaving ten. The battle continues as the Conquistador spends Turn #7 arming weapons while the Klingons destroy the Cobra and conduct repairs on their shields and weapons. On Turns #8 and #9, the Conquistador remains at range while trying to repair the TR beam, build the capacity back up in the front panel bank, and empty his panels of energy. The Klingons fill their phaser capacitors, reload their drone racks, and take a moment to write home.

The player is welcome to play Scenario (SH46.0) and discover the final result for himself.

(D10.7) POWER RESOLUTION ON ANDRO SHIPS

Andromedan ships are closed energy systems. Unlike other ships, unused energy from batteries for various functions is returned to the ship's batteries or PA panels, rather than being lost. Many players have searched for ways to empty their batteries of power; some of the methods they have found are not possible, practical, or legal. See (D10.74).

(D10.71) TRACTOR BEAMS: The most common (and most abused) means of using up excess battery power is by tractor beams (G7.0) or TR beams used as tractor beams (E9.4). Specific cases (beyond normal usage) are listed.

(D10.711) The Andromedan player can use each of his tractor beams to tractor a "rock" in a nearby hex. This function cannot use more than one point of energy per tractor beam per turn, even if this imaginary rock is several hexes away; this is an exception to (E9.42) and (G7.6) but does not apply when attempting to tractor a ship or other unit.

(D10.712) Andromedan ships may not use negative tractor (G7.35) against each other. (An obvious exception is made in tournaments where two Andromedan ships may be fighting each other.) Any ships allied to the Andromedans are under the same restrictions.

(D10.713) No more than two points of battery power can be allocated for each tractor beam (not TR) on the ship during Energy Allocation. [Exception: In a valid tractor auction (G7.42), this limit does not apply.] More can be added as reserve power during the turn. Any battery power allocated to tractor beams or negative tractor which is not used for this purpose must be returned to the batteries at the end of the turn. If the batteries are full (or were destroyed), this is treated as "released" power (D10.424).

(D10.714) An Andromedan ship cannot commit reserve power to tractor beams or negative tractor beams unless it is being used to tractor a unit or to defeat the tractor beam of an opposing unit, and then only to the minimum extent necessary to win the auction.

(D10.715) If an EW shift causes the failure of a tractor attempt, the energy is regarded as unused. If this was battery power, it is returned to the batteries at the end of the turn. If the batteries are full (or were destroyed), this is treated as "released" power (D10.424).

(D10.72) TRANSPORTERS: There are several conditions.

(D10.721) An Andromedan ship equipped with transporters may use them to transport "inert matter" outside the ship, but this function cannot use more than one-fifth point of energy per transporter per turn.

(D10.722) No more than two points of battery power can be allocated for each transporter on the ship during Energy Allocation. More can be added as reserve power during the turn. Unused battery power allocated to transporters is not lost but returned to the batteries at the end of the turn. If the batteries are full (or were destroyed), this is treated as "released" power (D10.424). Any fractional points are ignored. Only motherships can commit more than 1/5 point to transporters. Reserve power in excess of two points per transporter cannot be committed before the moment of use and is limited to the amount used.

(D10.723) If the Andromedan ship uses transporters to board an enemy ship with a shield down, and the use of reserve power for shields blocks this transporter attempt, the power is regarded as used and is not restored to the batteries.

(D10.724) If an EW shift causes the failure of a transporter attempt, the energy is regarded as unused. If this was battery power, it is returned to the batteries at the end of the turn. If the batteries are full (or were destroyed), this is treated as "released" power (D10.424). Any fractional points are ignored.

(D10.73) FIRE CONTROL, EW: If power is allocated to active fire control or electronic warfare, and those systems are dropped and later, during the same turn, re-activated, additional power is not required (and cannot be expended). The originally allocated power is adequate to maintain those systems during the entire turn. Note specifically that dropped EW points are not lost and can be reused later as provided herein; this is an exception to (D6.315).

The same power, however, cannot be used for both ECM and ECCM at the same time. The maximum amount of power that may be applied to EW during a given turn is twelve points. See (D6.315). [Power used to generate EW for lending via scout channels (G24.211) is limited by the number of channels assigned to that function.]

(D10.731) An Andromedan ship has (like all ships) a number of "circuits" for EW equal to its sensor rating (which is usually six). Each can be used for ECM or ECCM, but not both at the same time. A given circuit can be changed from ECM to ECCM no more than once every quarter-turn, even if this creates a restriction which extends into the next turn. See (D6.312).

(D10.732) EXAMPLE: An Andromedan ship allocates six points of power to generate two ECM and four ECCM points at the start of the turn. He could not allocate more than six points of power to EW [exception; scouts (G24.0)]. During the turn, the Andromedan player wishes to increase his ECM. He drops two points of ECCM (circuits #3 and #4) and uses two points of reserve power to activate those "circuits" as ECM. Nine impulses later he wishes to increase his ECCM again. He has a choice of switching the two new ECM circuits (#3 and #4) back to ECCM (costing no power, note that this is possible because eight or more impulses have elapsed) or of dropping the original two circuits (points) of ECM (#1 and #2) and using two points of reserve power to reactivate those circuits as ECCM. With the first choice he would use eight points of power (two from batteries) for EW during the turn, with the second choice a total of ten (four from batteries). This effectively allows an Andromedan ship to spend up to twelve energy points per turn for electronic warfare (up to six allocated or reserve, up to six reserve only), but to use no more than six of those points at any one time and to change the polarity of any given circuit only once every 1/4 turn.

(D10.733) This can create post-turn restrictions. For example, if a different Andromedan ship allocated six points for ECCM and (using six points from the batteries) switched all six circuits to ECM on Impulse #32, he would be required to maintain those circuits as ECM until at least Impulse #8 of the next turn (D6.312). He need not, however, allocate power for them, in which case they would produce neither ECM or ECCM. He could allocate up to six points of power but leave the circuits inactive, then use the six points of allocated power to activate all six circuits as ECCM on Impulse #8.

(D10.734) Only Andromedan units may use the procedures in (D10.73) to reverse the polarity of EW circuits without using more energy.

(D10.74) UNUSED POWER: In all cases, if the energy allocation shows energy generated by power-producing systems (not batteries or PA panels) which is not used, that power is not added to the batteries (or released) but is assumed to have never been generated. An example might be warp energy (other than reserve warp power) allocated for a high-energy turn (including power contingently allocated for such a function) that was never used. (reserve warp power allocated to complete a contingently allocated but never used HET would return to the batteries.) However, power generated and allocated to the batteries, if not used, goes into the batteries or phaser capacitors (H7.36) as on any other ship. It may be (but is not required to be) cancelled if unused tractor or transporter power returning to the batteries [e.g. (D10.713), (D10.715), (D10.722), or (D10.724)], would otherwise be released due to a lack of capacity in the batteries.

(D10.75) LOWER OUTPUT: Like all ships, Andromedans can simply operate their power producing systems at a lower level of output; the ungenerated power is not placed in the batteries. Like all ships, however, this unused power cannot be called upon as reserve power.

(D10.76) REPAIRS: Power cannot be allocated to repairs unless a damaged system eligible for repairs is present; see (D14.27), (G17.22), (D9.72), and (G17.36), exception (D10.546). Battery power allocated for repairs but not expended is returned to the batteries. It is not permitted to cancel repairs after they are paid for; exception (D22.43).

(D11.0) CHAFF *(Advanced)*

The term "chaff" is taken from twentieth century aircraft terminology. In that time period, it referred to strips of metal foil (cut to the same length as enemy radar waves) designed to confuse and distract enemy radar tracking systems.

The "chaff" used in this game is not a cut foil system but a small explosive device that, when released by the fighter, detonates and produces a small explosion that may cause the pursuing drone to assume that its target has been destroyed and a burst of ECM that could cause the drone to lose tracking. The packs are carried only by fighters (and some shuttles) since they are not powerful enough to distract sensor/scanners from larger targets.

While all fighters carry chaff, some non-fighter shuttles also do and are treated within these rules.

Chaff became available during Y168 (1 Jan). There is no reduction in BPV for fighters prior to that date.

(D11.1) CARRIAGE

(D11.11) ONE PACK: Most fighters can carry one chaff pack. Fighters not otherwise designated are assumed to do so in any scenario in Y168 or later.

(D11.12) TWO PACKS: Some advanced fighters carry two chaff packs. These are designated on the Master Fighter Chart (Annex #4) by the symbol ☆.

(D11.13) NO PACKS: Some shuttlecraft do not carry any chaff packs. These are designated on the Master Fighter Chart (Annex #4) by the symbol §.

(D11.14) SSDs: Chaff packs are shown on fighter SSDs as a small square, usually just below the fighter.

(D11.2) RELOAD

(D11.21) PROCEDURE: Chaff packs can be reloaded by deck crews working on that specific fighter with no reduction in their other capabilities. If a fighter carries more than one chaff pack, all can be reloaded at the same time without reduction in the deck crew's performance.

If no other function is being performed on the fighter in question, it will take a single deck crew an entire action (i.e., turn) to reload all of the chaff packs on that shuttle.

(D11.22) STORAGE: Normally a ship operating fighters (or other shuttles that carry chaff) will carry three complete sets of chaff packs for its fighters (including those originally on the fighters). Additional packs are available for one point each under (S3.21).

(D11.23) WEAPON STATUS: Fighters will have their chaff packs loaded even at Weapon Status-0. Chaff is not considered a "reloadable weapon" for purposes of (S4.10). Fighters on a surprised carrier (D18.16) will not have their chaff packs loaded. Spare fighters prepared during a scenario (only possible under certain special cases) will not have chaff packs installed.

(D11.3) OPERATION

(D11.31) TIMING: The chaff pack can be released in any impulse during the 6B6 Seeking Weapons Stage of the Impulse Activity Segment. (See Annex #2.)
(D11.311) Chaff can also be used during the Dogfight Resolution Interface but only if that fighter is actually involved in a dogfight.
(D11.312) Fighters (and other shuttles) used for SP, SS, and WW missions cannot drop chaff.

(D11.32) EFFECT: When a fighter (or other shuttle) uses a chaff pack, the owning player rolls a single die. If the die roll is a 1-4, all drones (including dogfight drones and seeking shuttles) and type-D plasma torpedoes (FP9.18) and type-K plasma torpedoes (FP13.51) targeted on that fighter lose their tracking and become inert (FD1.7) or are otherwise treated as if their target had disappeared. Any other die roll result has no effect on the seeking weapons, but the fighter will be under the conditions of (D11.41). Once used, the pack is considered expended and has no further effect.

EXCEPTION: Scatter-packs and multi-warhead drones (including Starfish) which have randomly-targeted submunitions AND which are successfully distracted by chaff pursue the hex in which the chaff was used as their "primary" target and will release their submunitions at the appropriate point.

(D11.4) POST-USE RESTRICTION

(D11.41) DIRECT-FIRE WEAPONS: A shuttle may not fire any direct-fire weapon for 1/4 turn (eight impulses) after dropping a chaff pack.

Note that a fighter in a dogfight would be able to fire in the subsequent Dogfight Resolution Interface.

(D11.42) SEEKING WEAPONS: A shuttle may not launch or control any seeking weapon for 1/4 turn (eight impulses) after dropping a chaff pack. At the instant of dropping a chaff pack, the fighter can transfer control of any weapons it is controlling to another friendly unit as per (F3.4) or (F3.5). See (J4.221) and (J4.43) for transfers of control.

(D11.43) OTHER SYSTEMS: Some systems are affected by the use of chaff; some are not. These effects apply (or do not apply) to the shuttle which dropped the chaff for the subsequent eight impulses; other units are under no restrictions.
(D11.431) NOT AFFECTED: Tactical intelligence, maneuvering (speed, Turn Mode, etc.), landing, EW generated by the fighter itself, ability of SWAC to go wild.
(D11.432) PROHIBITED: Ability to loan EW, ability to receive "carrier" (non-sensor) lent EW (J4.921) including EW from an EW fighter, ability to lay mines, ability to gather scientific data.

(D11.5) USE

(D11.51) COUNTER: The pack is not represented by a counter. Its effect (if any) is determined by die roll at the instant of use. Players might use any upside-down counter to mark a hex in which chaff was used for purposes of (D11.32).

(D11.52) OTHER USES: Chaff has no effect other than the die roll to evade drones. It does not break lock-ons or produce EW.

(D11.53) NO MULTIPLE USE: Each chaff pack can be used only one time.
(D11.54) TERRAIN: Chaff can be used with the same effect in any type of terrain that does not provide a specific prohibition in its rules.

(D11.6) UNAFFECTED WEAPONS

(D11.61) DIRECT-FIRE WEAPONS: Chaff does not affect direct-fire weapons fired at the fighter.

(D11.62) PLASMA TORPEDOES: Chaff does not affect plasma torpedoes, except type-D and tyype-K plasma torpedoes; see (FP9.18) and (FP13.51). Chaff does not affect any plasma bolts.
(D11.63) OTHER ITEMS: Chaff does not affect any other system. It does not protect a fighter or shuttle from asteroids (or any terrain), ESGs, stasis field generators, etc.

(D12.0) CHAIN REACTIONS AND INTERNAL EXPLOSIONS *(Commander's Level)*

Ships operating fighters [known as "carriers", see (J4.6)] have a serious vulnerability. The flight deck is crowded with fighter-shuttles, fuel, and ammunition. While the nuclear and anti-matter materials are unlikely to detonate (due to their containment fields), conventional explosives and combustible materials will explode. The hangar is a large volume without any intervening bulkheads or firewalls. Explosions can become chain reactions as loaded fighters parked wingtip-to-wingtip detonate each other.

If no armed fighters (including, in this case only, suicide or scatter-pack shuttles and armed MRS shuttles within the definition of "armed fighters") are present, this entire rule (D12.0) is ignored. A loaded shuttle bay drone rack only counts as a fighter if actual armed fighters (or SS or SP or MRS) are ALSO present; see (D12.12).

Andromedan hangars use (G19.32) but do not use (D12.0).

(D12.1) PROCEDURE

(D12.10) CAUSE AND EFFECT: If a shuttle box containing an armed shuttle (D12.12) is destroyed (by any means, including a hit-and-run raid), the weapons explode (although not at full strength), destroying one additional shuttle box in the same bay (if there is one; if not, this damage point is ignored) and causing one additional damage point to be scored randomly on the ship as a separate volley.

(D12.11) REACTION: If a shuttle box destroyed by one of the two damage points caused by (D12.10) contains an armed shuttle, it also explodes and destroys one additional shuttle box (D12.2) and one random hit (as a separate volley), and so on. Obviously, a carrier with a full strike loaded "on deck" that takes a shuttle hit is going to be in a lot of trouble.

See (J10.14) in the case of heavy fighters.
(D12.111) The chain reaction can be stopped (or prevented from starting) by scoring shuttle hits on empty shuttle boxes or on boxes holding unarmed shuttles. This type of chain reaction can only happen if there are no shuttle boxes that are not filled with armed shuttles. As such, it will seldom occur in practice. However, the consequences will encourage players to operate their carriers within realistic restrictions.

(D12.112) Shuttle hits caused by chain reaction cannot be scored on shuttle boxes in a different bay. Random hits which are designated by the DAC as shuttle hits can be applied to a different shuttle bay. See (D12.2) for definition of shuttle bays.

(D12.12) ARMED DEFINITION: A shuttle is considered armed if it carries drones, mines, or ADDs or if its disruptors, photon torpedoes, hellbores, fusion beams, or other non-phaser weapons that may be added to the game are charged/loaded. Pods and chaff are not considered "weapons" unless noted in (J11.0). Web-spinning ability is not considered a "weapon."
(D12.121) SP and suicide shuttles are considered fighters for this purpose, and if armed are considered "armed fighters." See (FD7.45) and (J2.226).
(D12.122) An MRS or SWAC shuttle is treated as a fighter for purposes of this rule, and if armed are considered "armed fighters."
(D12.123) Shuttles in the process of being armed count as armed fighters for chain reaction purposes.
(D12.124) Type-D and type-F plasma torpedoes WILL cause a chain reaction.
(D12.125) Wild weasel shuttles, unless they are considered to be armed under other subsections of (D12.12) e.g., ADDs, are not armed for the purposes of a chain reaction. Web anchors (G26.13) are NOT considered "armed shuttles." Cloaked decoys (G27.35) are NOT considered "armed shuttles," except as provided in (G27.633).

(D12.13) SUCCESSIVE VOLLEYS: Each successive generation of the chain reaction is treated as a separate volley. Resolve all damage scored, then determine how many of these have hit armed shuttles. The damage caused by these hits is then resolved as a volley; any resulting damage is another volley. Chain reactions in different bays are treated as a separate volley.

EXAMPLE: Several photon torpedoes and phasers strike a Klingon D6V which has all of its fighters on board and armed. This is treated as a volley. Two of these damage points strike shuttle boxes and are assigned to the lower bay, destroying the admin shuttle (and its shuttle box) and one armed fighter (and its shuttle box).

The explosion of the armed fighter (#1) destroys another (#2) armed fighter (and shuttle box) and causes one damage point, which is resolved as volley #2 on a warp engine box.

The explosion of fighter #2 destroys fighter #3 (and its box) and causes one damage point (volley #3). This damage point is rolled on the DAC and is determined to have been a shuttle hit. Rule (J1.412) allows the owning player to score this damage on any shuttle box of his option. The Klingon player could select the non-chain-reacting admin shuttle box in the other shuttle bay, but this contains the only armed WW, so the damage is scored on fighter #4.

The explosion of fighters #3 and #4 destroys fighter #5 and causes two more damage points (combined into volley #4). This volley is resolved, producing one shuttle hit and one phaser hit. The shuttle hit would, if scored on any shuttle except the WW in the second shuttle bay, chain react and destroy the entire bay, so the Klingon player scores it on the WW, ending the procedure. Four impulses later, six drones strike the D6V, crippling it.

(D12.2) SHUTTLE BAY DESIGNATION

Shuttles stored in separate shuttle bays (if the ship has more than one) will not detonate each other by chain reaction. Obviously, if the "random" damage point is designated by the DAC to be scored on a "shuttle" box and is scored on a box of another bay, a second, independent, chain reaction could begin.

Ships which have more than one shuttle bay are designated on their SSD, in the ship description, and/or in Annex #7G.

(D12.21) TWO BAYS: Some examples of ships with two bays include:

Large Auxiliary Carrier
Klingon D6V and D7V
Kzinti CVA
WYN AuxCV
Gorn CA, CL, HDD, DD, Tug
Hydran Cavalier, Horseman, Traveler
Lyran BC, DN, CV, CA, CL, DD, FF

(D12.22) THREE BAYS: Some examples of ships with three shuttle bays include:

Hydran Ranger, Lancer, Paladin
Federation CVA, PV
Romulan SPB (The SUB has four, by the way.)

(D12.23) OTHER UNITS are designated in their ship descriptions, SSDs, or Annex #7G. Some examples of unusual configurations include:

A starbase has six shuttle bays (one per docking module); with four hangar modules, it has ten.
A Federation SBF, with six hangar modules and its own bays, has twelve (one of which has fourteen shuttles).
A Tholian CVA has 25 bays, including 24 external; the BW has nine bays, including eight external.
A Klingon C8V has two shuttle bays in the rear, plus the tiny boom shuttle bay. A B10V has four.

(D12.24) PODS: Shuttle bays in a pod or module (of any type) are always considered separate from the ship and other pods or modules. In the case of hangar pods, the one extra random hit can only be scored on a system within that pod. Treat the pod as a separate ship for this purpose (only); move to the right on the DAC until an available system is found. If no systems are available, the extra random damage point is ignored.

(D12.25) TRANSFERS by (J1.59) are through specially-sealed and locked chambers. Chain reactions cannot spread from bay to bay even if the bays are linked by (J1.59). Shuttles in the process of transfer can end the turn in either bay but must end the turn in one bay or the other.

(D12.3) SHUTTLE BAY DRONE RACKS

(D12.30) BASIC: Many Klingon ships have drone racks mounted in the shuttle bays (FD3.6). Which racks these are is usually obvious from the SSDs. These racks (unless empty) will also explode in a chain reaction caused by exploding armed shuttles and will cause armed shuttles to chain react.

(D12.301) If no "real" armed shuttles (as opposed to armed drone racks) are present *at the time that the damage is scored*, this entire rule (D12.0) is ignored.

(D12.302) A loaded drone rack in the shuttle bay is treated exactly as (and is interchangeable with) an armed shuttle for purpose of resolving the reactions (i.e., a hit on a drone rack will trigger a reaction, and a drone rack could be the "additional shuttle"). However, a damage point allocated to "shuttle" cannot be scored on an armed drone rack, and vice versa.

(D12.31) KLINGON SHIPS which have these racks are:

Class	# of drone racks in shuttle bay
D7, D7A	2
D6, D6J, D6S	2
F5, F5S, F5I, F5J, F5M	1
E4, E4J, E4I	1

(D12.311) These are type-F drone racks and are already included in the ship's BPV. Other ships have their drone racks separate from the shuttle bay (and therefore not vulnerable to chain reactions).

(D12.312) The drone racks on ships with B-refits (R3.R1) will not chain react.

(D12.313) At the time of this publication, the above list of Klingon ships was complete. Note that only the basic class, and none of the variants (except those listed), have this weakness. However, future products might later include additional ships with this weakness. If so, this will be described in their ship descriptions. (The C8/9 and B10 have the racks in a non-bay compartment.)

(D12.32) OTHER SHIPS: If "type-F" racks are installed in the shuttle bays of any ship, the possibility of chain reaction under (D12.3) is created. These are only used in (S7.0).

(D12.33) EXAMPLE: A Klingon D7 has two armed drone racks and two shuttles in its bay. One shuttle is armed as a scatter-pack, the other as a WW. If no damage is taken until after the SP is launched, there can be no chain reaction due to (D12.301).

A shuttle hit is scored by the DAC. If this is applied to the SP, it will cause a chain reaction. If the damage point is applied to the WW, it will not.

Alternatively, a drone hit is scored. This causes one drone rack to explode, causing a chain reaction. The Klingon player applies the resulting "shuttle" damage point to the WW, stopping the reaction. But the "random" damage point is rolled as hitting a drone rack, and that triggers another, separate, chain reaction, which destroys the SP and causes other damage.

Alternatively, no damage is scored until after the SP is launched. In this case, a shuttle damage point could be scored on the empty box and (in that case) there would be no chain reaction even if the wild weasel had been prepared as a second scatter pack.

Alternatively, no damage is scored until after one drone rack is emptied. In this case, a drone damage point could be scored on the empty rack, and (in that case) there would be no chain reaction.

(D13.0) AEGIS FIRE CONTROL *(Commander's Level)*

Faced with vastly improved drones, many ships were converted to use the aegis *(EE-jis)* fire control system for drone defense in Y175. This system was almost never used on ships other than carrier escorts (the Klingon D5 being an exception).

The full aegis system was developed from the "limited" aegis system developed earlier. Most carrier escorts exist in a pre-Y175 "limited aegis" version and in a Y175-and-later "full aegis" system. The rules describe the "full aegis" system; the "limited aegis" system is described in (D13.4).

(D13.1) PROCEDURE

(D13.11) CONCEPT: Unlike normal combat, in which all fire during an impulse must be designated before any of it is conducted, the aegis fire control system can fire weapons individually, judge the results, and then fire more, all on the same step of the same impulse.

(D13.12) NORMAL RULES: Under the normal rules (B2.3-6D), a ship would have to designate which weapons would be fired during the current impulse before any were fired. For example, if the first one destroyed the drone, the others would be fired uselessly. If only a single weapon were fired and it missed, the results could be catastrophic.

(D13.13) AEGIS RULE: With aegis fire control, a ship can, during a single impulse, fire a weapon, judge the results, and then fire other weapons or shift its attention to other targets.

(D13.14) FOUR FIRINGS: Up to four separate "firings" or "pulses" could be conducted during a single impulse, rather than just one per target, as is the normal procedure. The first of the four aegis firings is at the same time as all non-aegis fire.

(D13.141) Even with two or more aegis-equipped ships in the scenario, there are only four firings, so those two ships would operate simultaneously (in each case) even if firing at different targets. Thus the first firings of all aegis ships must be announced (simultaneously with non-aegis weapons) and then resolved, then the second (aegis) firing is announced and resolved, and so on.

(D13.142) Units with aegis can skip one of the four firings, but cannot make it up after the fourth firing or by firing twice during one of the other firings.

(D13.143) Weapons firing with aegis fire at their normal rate. They have more opportunities to fire; they do not fire more rapidly. For example, an ADD fires only once per impulse, but with aegis it can be fired in any of the four steps. A phaser-G fires four times (not sixteen), but could fire 1-4 shots in each aegis step so long as no more than four were fired during the turn and within the limits of other rules.

(D13.144) In the event that ships with full and limited aegis are in the same scenario, the two limited aegis firings correspond with the first and second (of four) full aegis firings.

(D13.15) POWER REQUIRED: Aegis is a combination of high-speed tracking computers and software. It does not require additional power beyond normal fire control, but is not active if the fire control system is not also active (D13.524).

(D13.16) DESTRUCTION: Aegis cannot be "destroyed." It is not on the DAC and cannot be destroyed by a hit-and-run raid (D7.825). There are some conditions (specifically the lack of active fire control or lock-on) which prevent it from functioning.

(D13.2) RESTRICTIONS

The computer software controlling the system is limited to a "defensive" mode.

(D13.21) DEFENSIVE FIRE: Aegis fire can only be used against size-6 and smaller (e.g., drones, plasma torpedoes, fighters, or shuttles) targets within six hexes of the ship. Aegis fire can be used versus any seeking weapon or shuttle within six hexes, the defensive nature is solely a reference to its limitation in engaging only small targets and it is not necessary for such a target to be approaching the aegis-equipped ship. This does include ECM drones escorting enemy warships (FD9.1).

Aegis cannot be used against mines (M8.54) or DefSats (R1.15E).

(D13.22) WEAPONS CONTROLLED: While the aegis system can control all direct-fire weapons (unless noted otherwise, for example the D5), you are not required to use it for all (or any) fire during any given impulse.

Any non-aegis use of a given weapon cannot take place on the same impulse as the weapon is fired under aegis control. For example, if a phaser-G was fired at a ship (non-aegis target) during normal fire, it could not be fired during the aegis steps, and if fired at aegis targets during some aegis pulses could not then be fired at non-aegis targets during later pulses of the same impulse.

(D13.23) ACTIVE FIRE CONTROL (D6.6) and a lock-on to the target is required in order to use aegis fire control. (Obviously, a cloaked ship, with neither, cannot use aegis, although it might have been installed on that ship.) Low-power fire control is not sufficient; see (D13.524).

(D13.24) EMPIRES: All empires developed and deployed full aegis at the same time (1 Jan Y175 for game purposes). Andromedans can only have aegis on bases, never on ships. Orions are allowed to have aegis only on bases, and on special carrier escorts in mercenary units; see (R8.R7).

(D13.25) EACH SHIP can have only one aegis fire control system.

(D13.26) TERRAIN has no affect on aegis beyond its effects on the basic ship and weapon.

(D13.3) IDENTIFYING SEEKING WEAPONS

(D13.31) PROCEDURE: Ships with a full aegis capability have a limited ability to determine the type of incoming seeking weapon independent of the lab procedure (G4.22). They may make six "attempts" per turn, each directed at a specific individual seeking weapon. This is done in the Ship System Functions Stage (6B4). The chance of success is determined from the following table:

Range	Chance of Success
0-3	automatic
4	1-4
5	1-3
6	1
7+	not allowed

(D13.32) SUCCESSIVE ATTEMPTS may be made at the same or different seeking weapon on the same or different impulses (but not more than four times per impulse). This procedure can be used against shuttles that are suspected to be seeking weapons.
(D13.321) If made at the same seeking weapon as the immediately previous attempt (by the same ship), reduce the die roll by one.
(D13.322) Attempts during the same impulse are all rolled simultaneously and do not count as "previous" to each other for purposes of (D13.321), but would all benefit from a "previous" attempt on a previous impulse. Any one of the attempts could be declared the "last" attempt, making it the "most immediately previous" one for purposes of attempts during a subsequent impulse.

(D13.33) LABS: The use of this procedure does not prevent the use of the procedure in (G4.2). Labs are not used by the aegis system.

(D13.34) RESULT: The aegis system produces the same information as labs (G4.23).

(D13.35) FULL AEGIS ONLY: Only full aegis systems can perform this function; limited systems (D13.4) cannot.

(D13.4) LIMITED AEGIS

(D13.41) DEFINITION: Limited aegis functions in all ways as full aegis except that:
(D13.411) Only two firings (rather than four) are permitted (D13.14).
(D13.412) It cannot identify seeking weapons (D13.35).

(D13.42) OTHER CONDITIONS
(D13.421) Limited aegis requires the same power as full aegis (i.e., none) and the same (full) fire control.
(D13.422) Ships with full aegis can use limited aegis (D13.525), perhaps for deception purposes.
(D13.423) A ship cannot have both limited and full aegis. See also (D13.25).

(D13.5) DETECTING AEGIS

(D13.51) DETECTION: The very active fire control signature of an aegis system is unique. The fact that an aegis system is active (and whether it is limited or full) can be detected by tactical intelligence (D17.4) at Level E. If the system is inactive (D13.52), it cannot be detected.

(D13.52) DEACTIVATION: A ship with aegis fire control can voluntarily deactivate it (i.e., turn it off) during (or before the start of) a scenario. Activation, deactivation, and changes of level are done during the Fire Control Step of the Initial Stage (6B1) of any impulse.
(D13.521) Deactivation during (rather than before) a scenario is immediate and must be announced if there are enemy units in a position to detect aegis emanations (D13.51).
(D13.522) Once deactivated, there is no time limit before it can be reactivated.
(D13.523) Once activated, aegis can be detected (D13.51) but does not function for four impulses.
(D13.524) Aegis can only be active if the fire control system is active. Low-powered fire control (D6.72) is not sufficient for the use of aegis.
(D13.525) Ships with full aegis can use limited aegis (D13.4), presumably as a deception procedure. The switch from full to limited aegis is accomplished as per (D13.521). The switch from inactive to limited or from limited to full aegis is accomplished as per (D13.523).

(D14.0) EMERGENCY DAMAGE REPAIR *(Commander's Level)*

A ship that has taken battle damage may attempt emergency repairs on that damage during the course of a scenario. This is known as Emergency Damage Repair or EDR. This is a different procedure from (D9.0) or (G17.0). Any system can be repaired by this method except as noted below.

(D14.1) PROCEDURE

The EDR procedure involves marking off a number on the ship's damage control track and allocating power to the ship's labs. The number marked off on the damage control track serves two functions: it determines the maximum number of system boxes which may be repaired by EDR during the current turn (D14.24) and it sets the probability of success for each attempt (D14.13). The number of labs which have had energy allocated to them, and which have survived the turn with their allocated power, will determine how many EDR attempts will be made (D14.13).

(D14.11) DAMAGE CONTROL: During the Energy Allocation Phase at the start of a turn, mark one box (owner's choice but not a "0" box) on the Damage Control Rating Track (on the SSD) as destroyed.
(D14.111) The use of EDR might reduce the damage control rating of the ship (if the box marked out was the highest and was the only one remaining with that rating). If the ship had two or more boxes with the same highest rating, the ship could afford to sacrifice one for EDR. This is a hidden advantage in some ships (or disadvantage in others) that experienced players take note of.
(D14.112) Repairs on shields during combat under (D9.2) are based on the rating at the start of the turn, before this reduction takes place. Repair points gained for this function are calculated before EDR.

EXAMPLE: If a "4" on the damage control track were marked out, a player could attempt to repair up to four systems during the current turn.

(D14.12) ENERGY REQUIRED: Allocate three units of power to any or all of the ship's lab boxes (three to each). The systems on which repairs will be attempted must be specified (secretly, in writing) when the energy is allocated. The number of labs allocated to each system must also be recorded, although repair attempts lost due to destroyed labs (D14.1) need not be announced.

(D14.13) DIE ROLL: At the end of the turn, during the Final Activity Phase, roll one die for each lab box that had three units of energy allocated to it and was not destroyed during the turn. If any one die roll is less than or equal to the damage control rating of the box marked out, one system box can be repaired. The die rolls (one per powered lab) can be made on the same or different systems. Note the limit in (D14.24). These die rolls are made publicly; the system on which repairs are being attempted is declared before each die roll, and the number of die rolls that will be made on a given system must be announced before the first die is rolled. The written records from (D14.12) are revealed before any die rolls. Exception (D17.6) Secret Damage.

EXAMPLE: The Federation CA with eight labs and a damage control rating of four could make eight attempts (assuming all labs were allocated power) but against only four systems, and these attempts must be divided among the systems during energy allocation.

(D14.2) CONDITIONS AND RESTRICTIONS

(D14.21) MAX FIVE RATING: For purposes of this rule only, a damage control rating greater than "5" is considered to be "5." If using (D14.31), marking off six or more points is still considered to be a "5" for this purpose. (This applies to the die roll; a number of repairs equal to the damage control rating marked out can be attempted.)

(D14.22) CONTENTS: EDR can repair a system but cannot replace the lost contents.

EDR can repair a cargo box but cannot replace the cargo in it.

EDR can repair a drone or plasma rack, but the rack is empty when repaired, the seeking weapons that were in it at the time it was destroyed are irrevocably lost. (It could be reloaded from storage.)

EDR can repair a plasma torpedo launcher, but the repaired launcher will not have a PPT.

EDR can repair a shuttle box, but there will be no shuttle in it. (One could be activated from storage in some campaigns.)

EDR can repair a weapon, but the weapon will not be armed.

(D14.23) PROHIBITED REPAIRS: EDR cannot be used to repair a box on the damage control track, excess damage, or shields. See also (D14.33) and (D14.34).

(D14.24) MAXIMUM REPAIR: EDR cannot be used to repair more boxes than the number marked out on the damage control track [or the amount of the reduction in (D14.31)], although more attempts could be made. The unused capacity of the marked off box on the damage control track may not be saved for later turns. For example, if the number "4" on the damage control track is marked off for EDR in a given turn and attempts are made to repair only three system boxes, the opportunity to make an attempt to repair the fourth system box cannot be retained for a later turn and is lost. Bases, FRDs, and battleships are treated somewhat differently; see (D14.31).

(D14.25) LEGENDARY OFFICERS: A legendary science officer (G22.32) or legendary engineer (G22.44) counts as three lab boxes for EDR, but needs no power.
(D14.251) A legendary weapons officer can be used for EDR (as an engineer), but can only repair weapons (G22.76); see Annex #7D.
(D14.252) Legendary doctors, navigators, marines, and ground forces officers cannot be used for EDR. Only engineers and science officers [and captains acting in that capacity (G22.23) and weapons officers within their limits] can be used in this way.
(D14.253) EDR conducted by legendary officers does require the marking of a damage control box.
(D14.254) EDR conducted by legendary officers is within (D14.24).

(D14.26) REPAIR SYSTEM INTERACTION: EDR and Continuous Damage Repair (D9.75), cannot be used on the same turn, even on different SSD boxes. EDR and general repairs (G17.1313) cannot be used on the same turn, even on different SSD boxes. Shield repairs (D9.2) can be conducted on the same turn as EDR.

(D14.27) UNDAMAGED SYSTEMS: EDR cannot be allocated to a box which has not been damaged even if it is anticipated that the box will be damaged, e.g., fusion suicide overload (E7.421).

(D14.28) RESERVE POWER cannot be used for EDR. The repair system requires a certain amount of planning and must be assigned during energy allocation.

(D14.29) CREW QUALITY: See (G21.132) for poor crews and (G21.232) for outstanding crews.

(D14.3) OTHER UNITS USING EMERGENCY DAMAGE REPAIR

(D14.31) BASES: Bases and FRDs, being special types of ships, may use this rule as ships. These units may, if desired, reduce an undestroyed box on their damage control track by five (or less) rather than mark it out entirely.
(D14.311) The reduction used equals the chance of success, as limited by (D14.21). A given box could be reduced (and used for EDR) several times. For example, a "12" on a starbase could be used twice for full EDR, or it could be reduced by three on Turn #1, by five on Turn #2, by three on Turn #3, and so forth.
(D14.312) Battleships (such as the Klingon B10) and other ships with damage control boxes greater than six may use this procedure, but can only reduce a box by six (or by whatever is left in that box).

(D14.32) PFs: PFs (and interceptors) can use EDR (once per scenario) but do not mark off a box on the damage control track. They may use their "bridge" box as a lab (G4.33). While PFs do not have the senior engineers that starships do, any PF crew that completes more than one mission can be assumed to include some

resourceful individuals and a set of repair manuals. Green PF crews cannot use EDR (K8.223); ace PF crews can use it twice (K8.234).

(D14.33) PFTs cannot use EDR on their PFs (or interceptors).

(D14.34) SHUTTLES: Shuttles (including fighters), web anchor buoys (G26.353), and cloaked decoys (G27.642) may not use EDR, and it cannot be used on such units by the ship carrying them.

(D14.35) SHIPS WITHOUT LABS, including ships that have had all their lab boxes destroyed, can use one of their control boxes (G4.33) for EDR.

(D14.4) TACTICAL NOTES ON E.D.R.

Some experienced players use EDR as a last resort after (D9.7) repairs are exhausted. Other experienced players use EDR before (D9.7) on the theory that late in the game, after taking several hard blows, the ship may not have the power or labs to spare for EDR.

A damaged Federation CA which pulls out of range and expends 24 points of power for EDR for a few turns can return to the battle with every weapon and power system repaired. This is a hidden Federation advantage (at least on pre-War ships); their labs are not just free hits but emergency repair systems.

Remember that you do not have to mark out the highest box on the track. Marking out a lower box gives you fewer repairs, but you are almost guaranteed to make them. The aforementioned Federation CA could burn all of its damage control boxes except one "4" and manage to repair a total of ten systems. After this, four more systems can be repaired with continuous damage repair (D9.7). And you wondered why that rather unimpressive ship has such an impressive record?

(D15.0) GROUND COMBAT

Major interstellar battles were often fought over small mining or agricultural colony planets. Such planets were long on important resources and short on population. Thus, a battalion of ground troops (30-40 boarding parties) would often suffice to capture them. This rule is intended to provide a simplified system for resolving the capture of such a planet.

It is important to realize just what this rule is and what it is not, and what it can be used for and what it cannot be used for. This is an abstract system designed to create a ground combat situation, including its own tactics and conditions, which can be combined with the ship-to-ship combat system to recreate the overall situation. This system cannot be used to invade an inhabited planet or one with any significant amount of ground-based military power. This system could not be used to conduct commando raids on twentieth Century Earth, for example, because even remote areas would be within range of high performance tactical aircraft.

One key point of this system is that ships cannot fire from orbit in direct support of the ground forces (except transporter artillery). This is for several reasons. In most cases, the ground units of both sides will be too close to each other to allow such fire. In other cases, defensive shields would prevent such fire from having any effect or would prevent the pin-point accuracy needed. In most cases, the fire would destroy the very installations that the ground units are trying to capture or defend. In the case of a planet where those installations could be destroyed from orbit without compromising the mission objectives, the attacking ships would simply do so and dispense with ground combat altogether. This system simulates combat on planets where that option is not available, a considerable number of which exist. Considering the time required to rebuild destroyed facilities, allowing the enemy to capture them is preferable to their destruction since it can be assumed that they could be recaptured within a year or two. Only empires that are very definitely losing a major war would employ a "scorched planet" policy.

Any of the conditions and specifications of this rule can be modified by the scenario. For example, a given scenario might specify more combat locations or a different number of control stations.

(D15.1) GROUND COMBAT LOCATIONS

Unless specified otherwise in the scenario, there are six "ground combat locations" (GCLs) on a class-M planet, one facing each hex side. Each such GCL may begin the scenario with a specified number of units. These units cannot be attacked from space; they can only be attacked or destroyed by landing ground units or shuttles and using the ground combat routines. All ground units or shuttles on a planet must be at a GCL or in the remote areas (D15.7) of a GCL.

This rule can be used to capture asteroids, except that each asteroid would have only one (or rarely two) GCL(s). As stated in the introduction, this rule could only be used if the GCL (perhaps a mining or ore processing facility) is something neither side can afford to destroy.

See (D7.35) for multi-sided combat.

NOTE ON BASES: This rule (D15.0) assumes that there is no base on the hex side. If there is a base, use the procedures in (P2.75) instead of those in (D15.11). Some scenarios require the player to secure a GCL or achieve other goals before attacking a base within it by (P2.75).

(D15.11) CONTROL STATIONS: Each GCL is has three control stations unless the scenario states otherwise. These stations can never be destroyed; they can be captured.

(D15.111) A player designated by the combat procedure to lose a certain number of casualty points may surrender control of a control station (assuming that he has control of one) to satisfy a requirement that he lose two casualty points. So long as the player controlling one or more control stations has other units available to use for losses, he need never surrender the control stations. They could be captured by Specific Allocation (D15.33). When using specific allocation to capture a control station, the station is equivalent to six casualty points rather than the normal four (two doubled). See (D15.124) for a pre-condition to capturing a control station.

EXAMPLE: The Gorn player has ten boarding parties at GCL#2 and has control of all three control stations. During the turn, the Romulans land fifteen boarding parties. Resolving ground combat, the Gorns are required to lose three casualty points. To resolve the situation, the Gorn player marks one of his ten boarding parties as destroyed and surrenders control of one control station.

(D15.112) Control stations have no offensive potential and are not used in determining the outcome of combat except for the special provision of (D15.116).

(D15.113) A player must have at least one infantry unit (D15.14) present for each control station he controls. If he lacks sufficient infantry units, some stations are uncontrolled and can be occupied by any enemy infantry units present.

(D15.114) In the case of originally unoccupied planets, the control stations still exist (they are symbolic of "key terrain") and will be captured by the first infantry (D15.14) units to arrive at each specific GCL. If two (or more) groups arrive simultaneously, control of the unoccupied stations goes to the player with the highest offensive potential after the first turn of ground combat is resolved. If this is a tie, control is resolved at the end of the next ground combat resolution.

(D15.115) Hit-and-run raids can be conducted against a control station. While the station cannot be destroyed by hit-and-run raids, such raids could be used to kidnap an individual from it or to steal some item. If the station is occupied by an infantry (D15.14) unit, it is considered to be guarded. A special scenario rule might provide for specific individuals to move between control stations of a GCL as they would move between control stations on a ship, in which case those rules would apply for such things as locating and kidnapping the individual.

(D15.116) A player who controls two of the control stations in a given GCL adds one to one of the die rolls in (D15.32). (If he has eleven or more offensive points, there will be at least two die rolls; only one of them, owner's choice, receives this bonus.) There is no effect for controlling one station and no additional effect for controlling all three.

(D15.12) DEFENSIVE SYSTEMS: Each GCL has six ground defensive systems (GDSs, two per control station) unless otherwise specified by the scenario or campaign. This is an abstract feature representing various ground defenses; each system can be thought of as a small fort with something akin to a tank turret on it.
(D15.121) At the start of the scenario, each GDS is controlled by the defending player.
(D15.122) GDSs count as two offensive points for offensive purposes and can be destroyed by two casualty points. GDSs can be destroyed (in this manner), but cannot be captured or repaired. They cannot be built during a scenario.
(D15.123) Each control station has control over two of the GDSs. (If the scenario provides a different number of control stations and defense systems than normal, the command arrangement will be specified.) If a control station is surrendered, the GDSs (assuming that they still exist) controlled by that station are also surrendered. (The GDSs cannot be surrendered unless the control station is surrendered.) In this case, the GDSs would not fulfill loss requirements. GDSs do not need crews; they are controlled by the control station.
(D15.124) A control station cannot be captured by Specific Allocation (D15.33) unless its GDSs have been destroyed.
(D15.125) In the case of a previously unoccupied planet, there are no GDS systems.
(D15.126) The player who controls a GCL at the start of the scenario may spend Commander's Option Points to add one GDS to any control station, but no control station can control more than three GDSs. It is not possible to buy extra control stations or civilians; these are specified by scenario.

(D15.13) ATTACKER FIRE SUPPORT: Either player can send shuttlecraft to support the ground combat operations. These can be admin, MRS, ground assault shuttles (GAS), or other shuttles. See (D15.43).
(D15.131) To provide such support, the shuttles must be in the atmosphere (descending or in level flight, P2.4) of that hex side; shuttles that have landed (to unload ground units or whatever) can also provide fire support. The various types of shuttles each have an offensive potential rating and require a specified number of casualty points to be destroyed, as is shown on the summary in (D15.87).
(D15.132) Fighters can also be used for ground support, but because of their nature, they are not well suited to this role (D15.44). See (J11.34) for ground support pods.

(D15.14) DEFINITIONS: The term "infantry unit" includes boarding parties, commandoes, combat engineers, Prime Teams, heavy weapons squads, and militia squads.

(D15.15) TACTICAL INTELLIGENCE: A player can determine the number of crew units present at a ground combat location using (D17.4) Level M. This does not identify the units as to quality (e.g. poor or elite) or sub-type (heavy weapons, commando, civilian, etc.). Sub-types are identified only when used in combat with enemy forces under (D15.87).

(D15.2) OPERATIONS

The Ground Combat rule is integrated into the normal game Sequence of Play. During the various impulses of a turn, players may endeavor to transport boarding parties (or other ground units) to the surface of the planet, depositing them at one or another GCL for purposes of combat. Such combat is resolved in Phase 7 (Final Activity Phase), according to the following procedure:

1. Move units between the GCL and associated remote areas.
2. Resolve ground combat; allocate casualties.
3. If there was no ground combat in a given GCL, S&D (D15.75) missions may be conducted in that GCL.

(D15.3) COMBAT RESOLUTION PROCEDURE

Combat at a Ground Combat Location is resolved according to the steps given below.

(D15.31) STEP 1 OFFENSIVE POTENTIAL: Each player determines his total offensive potential, which is the sum of the offensive potential of all of his units at that GCL.

(D15.32) STEP 2 CASUALTY DETERMINATION: Each player rolls a single die and cross indexes the result with his offensive potential on the chart below to reveal the number of casualty points scored on the other player's forces. Note that if a player has more than ten offensive points, he resolves his points in one or more groups of ten and (usually) a single group of less than ten. He must resolve 21 offensive points as (2x10 and 1x1); he could not resolve them as (3x7) or as (4x4 + 1x5). Roll a separate die for each group of ground units.

GROUND COMBAT CASUALTY RESOLUTION TABLE

DIE ROLL	Number of Boarding Parties									
	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	1	1	1	1	1	1
2	0	0	1	1	1	1	1	2	2	2
3	0	1	1	1	2	2	2	2	3	3
4	0	1	1	2	2	2	3	3	4	4
5	1	1	2	2	3	3	4	4	5	5
6	1	1	2	2	3	4	4	5	5	6

EXAMPLE: The Klingon player is assaulting a GCL with six boarding parties, two admin shuttles, and one GAS shuttle. His total offensive potential is thus (6 + 2x2 + 1x4 =) fourteen. He rolls a six when resolving the first ten points (six casualties) and a three when resolving the other four (one casualty). The Federation player is thus obligated to eliminate some of his units equal to seven or more casualty points.

(D15.33) STEP 3 SPECIFIC ALLOCATION: After the number of casualty points to be scored is determined, each player has the option of calling for "specific allocation". In this case, each player can insist on which units will be eliminated by the casualty points. (Otherwise, in step #4 below, each player can score the casualty points on his own units at his own option.) If a player chooses this option, the elimination of each unit (destruction of a GDS) requires double (control stations require triple) the normal number of casualty points. A player is not obligated to use all (or any) of the casualty points he has scored in this manner. This procedure can be used to score one or more *SFB* damage points on a shuttle. Each player makes his decisions on the use of Specific Allocation secretly, simultaneously, and in writing. Specific Allocation is used once per phase, but can be used on as many enemy units as the player wishes (given enough points).

See (D15.42) in the case of control stations.
See (G21.141) and (G21.241) for crew quality modifiers.

EXAMPLE: In the above example, the Klingon player could have insisted on being given one of the control stations if the GDS turrets had been destroyed (D15.124). This would normally satisfy the obligation of two of the casualty points, but because it was required under specific allocation (and is a control station), it satisfies six. The Klingon player is not obligated to use specific allocation for the remaining point (or points). If either player calls for specific allocation, the other player has the option to also require it. In cases where both require it, each player must write down his requirements; these are then revealed simultaneously. Since neither player is required to use all of his casualty points for this purpose, there may be several rounds of this procedure in each *SFB* turn. Also see (D15.42).

(D15.34) STEP 4 CASUALTY RESOLUTION: After any Specific Allocation, each player must eliminate units to satisfy the casualty points scored against him. Both players do this secretly, simultaneously, and in writing, then expose their written notes and adjust their records. Units are eliminated one at a time, with points adjusted accordingly.

A player is not obligated to eliminate a unit if there are not enough casualty points to eliminate his smallest unit (in terms of casualty points). In this case, score the designated number of casualty points against a unit (without destroying it), and keep a record of the number of such points scored against each unit. When the total number of such points equals the number of points required to destroy the unit, it is destroyed. This system cannot be used to "partially capture" a control station.

EXAMPLE: Five Klingon boarding parties are in combat with a single GAS shuttle. Since five boarding parties can score at most three casualty points, and since it takes four casualty points to eliminate the GAS shuttle, they could never destroy it in a single turn.

By recording the accumulated damage, the boarding parties might destroy the shuttle after two or three turns of trying.

(D15.35) COMPLETE COMBAT EXAMPLE: The Gorns hold GCL#3 with the original ten boarding parties assigned by the scenario, all three control stations, and have four GDSs still in operation. In addition, they have transported down six boarding parties and have sent three shuttlecraft (one Admin, one MRS, and one GAS) carrying five more boarding parties to the location. Thus, they have 21 boarding parties, plus ten points of offensive potential from the shuttles and eight from the GDS, for a total of 39.

The Romulans have landed fourteen boarding parties by transporter and have sent six GAS and two admin shuttles, with fourteen more boarding parties. This gives them a total of 28 boarding parties and (counting shuttles) 56 offensive points. The Gorns roll 3-3-4-1 (the first roll of three is increased to four because he has the control stations) for a total of (4+3+4+1=) twelve casualty points; the Romulans roll 2-1-6-3-3-4 for a total of (2+1+6+3+3+2=) seventeen casualty points. Neither side seeks specific allocation. The Gorn player chooses to lose the Admin and GAS shuttles (six points), all four GDS systems, and three boarding parties. The Romulans choose to lose both admin shuttles (four points total), one GAS shuttle (four points), and four boarding parties to satisfy their casualties.

(D15.36) LINK WITH *SFB*: The ground combat system in (D15.0) is more granular than normal *Star Fleet Battles*. Damage to shuttles (D15.32) is resolved at a rate of one ground casualty point equals three *SFB* damage points. (In the case of GAS, GBS, and HAS shuttles, one ground casualty point equals two *SFB* damage points.) Crippled shuttles cannot support ground combat. Ground combat potential (D15.32) cannot damage ships or bases (or their shields); those are attacked by (P2.75). The shields on a ground base or landed ship do not stop a ground assault using (P2.75). See also *Marines: Assault* for another take on ground combat in the *Star Fleet Universe*.

(D15.4) COMBAT RESTRICTIONS AND PROHIBITIONS

(D15.41) INFANTRY REQUIREMENT: A player cannot control any control stations without infantry (D15.14) units. (Shuttles, GCVs, and GDSs cannot control a control station.) This requirement reflects the historical fact that only infantry can seize and hold terrain. If an enemy scores casualty points but has no infantry (taking into account losses from the current turn), he cannot take a control station by specific allocation. A player controlling a control station, facing an opponent without infantry units, may use the control stations to satisfy a requirement for casualties without losing control of the station. If a defending player loses his last infantry units, he immediately loses the control station if the enemy has infantry units. If neither has infantry, the control station is unoccupied. (At the end of the scenario, whoever controls the GCL gains control of any unoccupied control stations, even without infantry.)

EXAMPLE: The Klingon player has four boarding parties and twelve shuttlecraft. The Federation player has scored eight casualty points, which he demands be used to eliminate the four boarding parties (at double the normal rate, requiring all eight points to kill four points worth of units). The Klingon player, with 28 offensive points, scored nine casualty points. The Federation can satisfy six of these with the control stations, but does not lose control of them as the Klingon cannot capture them!

(D15.42) USE OF SPECIFIC ALLOCATION: If one player uses specific casualty allocation to capture a control station, the other player may immediately (in the same step) use specific casualty allocation to take it back. In this case, a player in a GCL with some enemy-held control stations must state, when declaring that he will use specific allocation, that he will use it against the control stations. (If there are some control stations held by each player, both would have to make such a declaration in writing, with the notes written secretly and exposed simultaneously.) The other player can then decide if he will use specific allocation to take them back. If the first player then has more casualty points to use, he could capture it again — and lose it again.

EXAMPLE: The Gorns hold the sole control station in a GCL; all GDSs have been destroyed previously. The Romulan assault force scores seventeen casualty points; the Gorn defenders score twelve. The Romulan player then announces that he will be using specific allocation, and further that this will be six points to capture the control station. The Gorns then immediately counter by using six of their points to take it back. The Romulans then use another six points to re-recapture the control station. He would like to use four of his remaining five points to destroy the last two Gorn infantry units, but cannot because the Gorn is allowed to "immediately" use specific allocation to recapture the control station, which the Gorn player does with his last six points. The Romulan player then uses four of his last five points to kill the two infantry units, seizing the control station. (Of course, it would have been simpler to just destroy the Gorn infantry.)

(D15.43) SHUTTLES: Shuttles that have landed on the planet for the purposes of ground combat (or delivery of ground units) cannot be fired at from space. (They are too close to friendly ground units and to the facilities being contested.)

(D15.44) FIGHTERS: Up to four fighters can participate (although with limited effect) in a round of combat at a GCL as direct support. Each provides one point of offensive potential (possibly increased by ground attack pods) and counts as a number of points for casualties (D15.36). Fighters are not really designed for this type of mission, and their ability to conduct it is nominal. Specialized ground-attack fighters may be provided in some later expansion. Note that the fighters provide this firepower in addition to any space combat they conducted during the turn. This attack ability is not affected by use of low-powered phasers (J7.52).

(D15.45) LEGENDARY OFFICERS: Legendary Captains, Majors, Engineers, and Weapons Officers can participate in combat as Legendary Ground Forces Officers (LGFOs or LegFos). In some cases, actual LGFOs may be assigned as part of the scenario. (Players may wish to assume that there is a 50% chance of a LGFO with each group of 40 boarding parties and roll to determine if such an individual is present.) LGFOs have the following effects:
(D15.451) An LGFO can be added to any ground combat situation in addition to other units present. An LGFO is transported at no extra cost with a BP on a GCV or shuttle. An LGFO can be moved with a BP by transporter at no extra cost in power but requires the expenditure of normal power for transporters if he is beamed by transporter alone.
(D15.452) If more than one LGFO is present (on one side, at a single GCL), only one is used in combat regardless of the number of offensive points involved.
(D15.453) LGFOs have no offensive potential but count as two casualties. They can be eliminated by specific casualty allocation, although this costs four points. The officer is then treated as per (G22.134).
(D15.454) If with a group (of up to ten offensive points) in ground combat, the LGFO can do one of two things:

1-Roll two dice for his side (for his group of up to ten points), and take his choice of either of the results.

2-Force the enemy player to roll two dice for one group of up to ten points, and then use the lower result.

If there is a LGFO on each side, and both try to affect the same group's die roll, they cancel each other out and the normal one-die system is used.
(D15.455) In a Search and Destroy operation (D15.75), an LGFO will add one to the contact die roll when used in an S&D operation, or if defending, he can subtract one from the enemy's contact die roll. If the LGFO is with the ground units in the remote area and does not subtract one from the enemy's contact die roll, he can add two to his own "number of units in contact" die roll and can participate in that combat himself.
(D15.456) A Legendary Doctor could conduct his normal "healing" within a GCL or remote area.

(D15.46) GORN SHIPS: The Gorns, with their notorious penchant for ground combat, carry some GAS shuttles as standard equipment on their ships. See (R6.R3).

(D15.5) TRANSPORTATION AND LOGISTICS

Either player can land ground units at any GCL, subject to the rules on transporters, shuttlecraft, or ships able to land. Ground units may not leave GCLs by other means; no surface transportation is available. (Ground vehicles cannot travel fast enough to reach another GCL within the time frame of a scenario.)

(D15.51) TRANSPORTERS: Transporters must have a direct line-of-sight to the GCL hex side (P2.62); they cannot be used through the planet itself. (They can be used through several thousand feet of rock, to an underground cavern for example, but not through several thousand miles.) A ship within the firing arc of a (hypothetical) base on that planet-hex-side is considered to have a transporter line-of-sight if an appropriate shield (on the ship) has been dropped. If not using (R1.15H), b.ases on the planet can transport to any point on the planet's surface.

(D15.52) SHUTTLES AND SHUTTLE CONVOYS: A number of shuttlecraft types, including the standard administrative (or utility) shuttle, can be used to transport ground units to the planet. These use the standard movement and personnel loading/unloading rules for such shuttles. Shuttles carrying ground units to or from a planet, or returning from such a mission, may be formed together with escorting fighters into a "convoy". This provides several advantages in combat. Convoys are formed, however, specifically for the purpose of protecting troop transport shuttles.

(D15.521) To be considered as a convoy, all shuttles and/or fighters must be in the same hex (or atmospheric hex side), facing the same direction, traveling at the same speed, and on the same side (i.e., be allied or of the same side).

(D15.5211) Shuttles may join or leave a convoy at the start of any impulse, and not all shuttles in a given hex must be a member of that convoy.

(D15.5212) Any type of shuttle (even a crippled shuttle) can be used as an escort, but only non-fighter shuttles can be escorted. The designation of which shuttles are escorts and which are escorted, as well as which are members of the convoy and which are not, is made by a public announcement by the owning player of each shuttle (and can be changed in any impulse) in Stage 6B1. Two or more convoys in the same hex could be combined. If the shuttles in a convoy are not of the same speed, all must slow to the speed of the slowest shuttle (or less). Non-fighter shuttles cannot make unplotted speed changes during the turn (C12.342), limiting their opportunities to join convoys.

(D15.5213) At least four shuttles are required for a group to be considered a convoy; a group of three or fewer shuttles cannot be considered a convoy. At least one of the shuttles must be a non-escort; there is no minimum number of escorts. If casualties reduce a convoy to the point it no longer meets these requirements, it loses that status during the next Stage 6B1.

(D15.522) Seeking weapons fired at a unit in a convoy, upon entering the convoy's hex, select a target randomly. (Assign each shuttle a number, and roll a die.) Chaff dropped by any member of a convoy will break the lock-on of a drone against any member of that same convoy, presuming the appropriate die roll (D11.3). An ECM drone targeted on a convoy will have no effect (FD9.16).

(D15.523) Direct-fire weapons cannot be targeted on a specific member of a convoy if that convoy is in an atmosphere. Designate the weapons as firing on the convoy, and when it is time to fire each one, randomly allocate the fire of that weapon to a specific shuttle by (D15.522). If a weapon is allocated to a shuttle which was destroyed by a previously-fired weapon (in the same step), that subsequent weapon still fires (and has no effect). No unit can tractor a shuttle that is a member of a convoy if the convoy is in an atmosphere. No enemy unit can transport anything onto or off of a shuttle in a convoy if that convoy is in an atmosphere.

(D15.524) Direct-fire weapons cannot be targeted on any escorted member of a convoy outside of an atmosphere unless all escorts have been eliminated or none are present.

(D15.525) Escorts can be eliminated by one of three means:

1-The owning player can change their designation or detach them from the convoy.

2-They can be destroyed by weapons fire. Direct-fire weapons will strike a randomly-selected shuttle if the convoy is in an atmosphere (D15.523).

3-They can be forced to participate in a dogfight, which separates them from the convoy.

(D15.526) Convoys can be intercepted; see (D15.6).

(D15.527) Shuttles on a seeking or ballistic course cannot be escorted, nor may they be escorts.

(D15.528) Elements of a convoy may not fire DF weapons or launch seeking weapons on any enemy unit unless that unit is attacking them with DF weapons, guiding a seeking weapon that is within three hexes, or is itself within three hexes. Shuttles which leave a convoy remain under the convoy's firing restrictions for four impulses after separation.

(D15.53) SHIPS: Certain ships can land on planets (Annex #7B), and these ships are sometimes used to land ground units.

(D15.531) Ships used to carry ground units to the planet's surface participate in ground combat (while on the surface) as per (P2.751) with a -1 modifier (ignore the weapons/repair area modifiers listed). PFs are treated as per (P2.755). The ground units can fight their way into any (D16.0) "area" of the ship.

(D15.532) While on the surface, the ship is treated as per (P2.52), (P2.53), and (if applicable) rule (P2.54). A ship landed on a planet cannot be fired at if it is under assault by ground forces friendly to the firing unit; this also applies to ground bases. A ship cannot fire during a turn in which it loads or unloads ground units or is assaulted by unfriendly ground units; this does not apply to ground bases. A ship landed on a planet cannot fire at another ship landed on the same planet or at a base on that planet, even if both are in the same ground combat location. Ships in low or high flight can fire at a base or landed ship or be fired at by a base or landed ship in the same ground combat location within the provisions of this rule.

(D15.533) Ships on a planet can load or unload two BPs (or one crew unit) per impulse, and one GCV every even-numbered impulse, during Stage 6B7 as a crew unit transfer (assuming that said units are available for this action).

(D15.54) TRANSFER BETWEEN GCLs: Units can be transferred between two ground combat locations by any of the means listed below.

(D15.541) Ground units can be transferred by transporter using the transporter rules.

(D15.542) Shuttles and troop-capable PFs (and any ground units they are carrying) can move from one GCL to an adjacent GCL at the end of Impulse #32 of the turn (as their only movement during that turn). Shuttles and PFs used to move ground units from one GCL to an adjacent one via (P2.423) cannot be attacked or intercepted by enemy units. (Only ground-assault and cargo PFs are troop-capable.)

(D15.543) Ground units or shuttles could board a friendly ship landed in that GCL (e.g., a Romulan Commando Eagle) and be carried by it to another GCL. This process would use the normal movement rules (P2.4123).

(D15.544) Between scenarios of a campaign (unless prohibited due to a short schedule), ground units can be redistributed between GCLs using available vehicles or systems. (This would be done by secret and simultaneous written orders if both sides were mobile.) This could theoretically result in an interim-scenario to resolve any resulting ground combat situations. In many cases, this will be defined by scenario rules. As a general rule, if the only units belonging to one side are ground units in remote areas, the other player may, at his option, consider the scenario over.

(D15.55) COMBAT AND NON-COMBAT TRANSPORTATION RATES: Transporters, as well as most shuttlecraft, have the ability to transport a number of ground units into a "combat" situation and a greater number (usually double) into a "non-combat" situation. See (G8.3) for transporters and (G9.14) and (J2.211) for shuttles.

(D15.551) If ground units are transported to a GCL at the non-combat rate (D15.712), they could not be used for offensive potential or casualty resolution purposes on the turn of landing [unless attacked under the S&D rules (D15.75) and even then only to absorb casualties]. In effect, they land in remote areas and cannot be moved into the GCL itself until the next turn.

(D15.552) Transporting ground units, by shuttle or transporter, out of a combat situation is conducted at the same rates as transporting them into such a situation.

(D15.6) INTERCEPTION OF CONVOYS

(D15.60) INTERCEPTION: Shuttles (including fighters) can be used to intercept troop-carrying shuttles or to escort them. Crippled shuttles cannot perform interceptions. Shuttles must be in the same hex (or hex-side in the case of an atmosphere) as the convoy to intercept it.

(D15.61) DOGFIGHTS: Escorts can be challenged to dogfights by (J7.1), forcing them to leave the convoy (D15.525).
(D15.611) If the challenge takes place within an atmosphere, and if a dogfight ensues, that dogfight is immediately moved to an adjacent (or the nearest) non-atmosphere hex directly away from the center of the planet.
(D15.612) Escorted shuttles cannot be challenged to a dogfight (as long as the convoy has escorts).

(D15.62) EXO-ATMOSPHERE: If there are no escorts, and if the convoy is not in an atmosphere, the intercepting shuttles may fire on the convoy shuttles or may challenge them to dogfights, forcing them to leave the convoy (D15.525).

(D15.63) ATMOSPHERE: If there are no escorts present, and if the convoy is in an atmosphere, each intercepting shuttle that is in the same hex as the convoy may make one attempt (each turn) to intercept a shuttle. Roll one die:

If the result is a "1" or "2", the shuttle has intercepted an enemy shuttle. Select one from the convoy at random (i.e., by die roll), and treat the result as a dogfight (D15.61).

If the intercept die roll is a "6", and if there are at least three shuttles in the convoy armed with a phaser and capable of firing, the intercepting shuttle is considered to be crippled (score enough damage points to cripple it) and one convoy shuttle (owner's choice) is presumed to have fired one phaser at low-power levels, a partial exception to (J7.52).

Die rolls of 3-5 have no effect in the intercept.

A shuttle used to conduct an unsuccessful interception (does not result in a dogfight) cannot move for the remainder of that turn.

(D15.7) REMOTE AREA COMBAT

Certain units may be declared, by their owners, to be in remote areas several dozen kilometers (or more) from the GCL. This is usually done in an attempt to avoid combat.

(D15.71) DECLARATION: Units in a given GCL may be declared, by their owner, to be in the "remote areas" of that GCL. This declaration is made immediately prior to the resolution of boarding party (ground) combat.
(D15.711) Units in remote areas are not involved in the combat resolved at that GCL. They cannot be used for offensive or casualty purposes. They do not affect the control of that GCL.
(D15.712) Units landed into "non-combat areas" are in fact landed into remote areas.
(D15.713) Ships cannot fire at units in remote areas because of the poorly defined targets.

(D15.72) CONTROL STATIONS: Control stations and GDSs can never be in remote areas.

(D15.73) MOVEMENT: Units can move freely between a GCL and its remote areas. Ground units of opposing sides that are in remote areas are presumed to be in different remote areas and cannot engage each other in combat; exception: search and destroy missions (D15.76).

(D15.74) SEARCH & DESTROY AUTHORIZATION: If, when boarding party (ground) combat is to be resolved in the Final Activity Phase (7), a given GCL is completely under the control of one player (there are no enemy units there), AND IF there are enemy units in a remote area of *that* GCL, and if that player has more than a three-to-one edge in combat power, that player can conduct a "search and destroy" (S&D) operation against those enemy units as long as he retains the three-to-one edge in combat power in *that* GCL.

EXAMPLE: Player A has 27 boarding parties in a Ground Combat Location, and player B has two heavy weapons squads and four boarding parties in that Ground Combat Location, player A could use three of his boarding parties in Search and Destroy operations against enemy units the remote area.

(D15.75) S&D PROCEDURE: To conduct an S&D operation, the player in control of the GCL designates certain units to participate in it.
(D15.751) He must leave enough infantry (D15.14) to garrison the control stations (one unit each).
(D15.752) Only non-fighter shuttles and ground units may participate in S&D operations. Ground-support fighters (i.e., fighters carrying ground attack pods) and normal fighters cannot.
(D15.753) The player conducting S&D operations may use any or all of his eligible units from that GCL (including remote areas). Units from other GCLs cannot be used.
(D15.754) More than one S&D operation can be conducted during a turn, but each is resolved separately, and a given boarding party or shuttle can only participate in one S&D operation per turn.

(D15.76) S&D RESOLUTION
(D15.761) STEP 1 CONTACT: Determine if contact was made with the enemy forces in the remote areas. Roll a single die. Contact was made if the result is "5" or more, subject to the following die roll adjustments:

+2 If the force conducting the S&D is entirely in shuttles (this can only be done at combat loading rates).
+2 If the enemy in the remote area has one or more shuttles (they are easier to find).
+2 If there is an enemy ship which has landed in the remote area (in which case any contact will be with enemy forces designated by the owner as being with that ship; this modifier may be declined by the S&D player).
+1 If there is a friendly ship in orbit or at speed zero one hex above the GCL which has not fired or been hit during the turn.
+1 If the entire S&D searching force is mounted in ground combat vehicles (GCVs) or other ground vehicles and/or shuttles.
+1 If the hiding force has ground vehicles, but not shuttles.
+1 If there is a friendly ship within three hexes with direct line of sight to the GCL using a special sensor to gain tactical intelligence (G24.29).
-1 If there are five or fewer enemy BPs and/or ground vehicles (total) in the remote areas.

If no contact was made, the S&D operation was a failure and no battle ensues. Do not continue resolution with that mission.
(D15.762) STEP 2 EVALUATION: Determine how many of the enemy ground units were contacted. Roll two dice. The resulting total (with adjustments noted herein) is the number of ground units in the remote area that have been contacted. (The owning player determines just which units are in contact.) This is adjusted as follows:

(D15.7621) Obviously, it cannot exceed the number of ground units present.
(D15.7622) The number may be voluntarily reduced by the player in the remote area up to 50%, but may not be increased.
(D15.7623) No ground unit can fight in two ground battles during the same turn.
(D15.7624) Any shuttles present with the forces in the remote area can be added to the forces contacted. If more than one shuttle is present, at least one must be added. Shuttles (other than the first one) can carry additional defending ground units to the battle. Shuttles or ground vehicles can carry ground units to a battle (or move there without carrying ground units) when contact was gained by a force without shuttles, but ground vehicles cannot carry ground units to a battle when contact was gained by shuttles.
(D15.7625) Either player may use up to three transporters (from ships or bases in range) to bring additional ground units to the battle, assuming that these transporters are available, have power, were not used during the turn, and satisfy all requirements of (G8.0). This will count as using them during Impulse #32.

(D15.763) STEP 3 REMOTE AREA COMBAT: Combat is resolved between the forces assigned to the S&D operation and the forces contacted using (D15.3).

(D15.764) EXAMPLE: Kobol and his ground units are not doing well. The Kzintis control GCL #3 with a considerable force, enough to make any attack against it suicidal. Twenty Klingon boarding parties and four GAS shuttles are in the remote areas surrounding GCL #3. The Kzinti player designates two S&D forces. One is a ground element with twenty boarding parties. The other element consists of three GAS shuttles carrying six boarding parties.

The first element searches. Since Kobol's force has shuttles, two is added to the die roll of three to result in a five, meaning that contact has been made. The Klingon player rolls two dice and is shocked to find that the Kzintis have cornered only three of his boarding parties (plus the obligatory shuttle). The Klingon player considers, and then dismisses, the idea of sending his other shuttles to the battle. The battle is resolved. Twenty Kzinti boarding parties roll a "2" and "4", causing six casualties. The Klingon promptly eliminates his three BPs and then scores six *SFB* damage points on the GAS shuttle with the three remaining ground casualty points. The Klingon player had seven offensive points, and a die roll of "4" scores three casualties, destroying three Kzinti BPs.

The second Kzinti element searches. With the die roll adjustments, contact is automatic. The Klingon player rolls two dice and finds that nine of his seventeen remaining boarding parties are in contact, along with one shuttle. He sends the other two shuttles (the other one has fought in ground combat once on this turn and cannot fight again), with four more boarding parties, to the scene. He thus has thirteen boarding parties plus three GAS shuttles for a total of 25 offensive points. The Kzintis have only six BPs and three shuttles for a total of eighteen.

Combat is then resolved by the normal procedures, although the Klingons have a numerical advantage.

(D15.8) ADDITIONAL MARINE COMBAT UNITS

Players may use these additional ground units:

(D15.81) HEAVY WEAPONS SQUAD: This is a regular boarding party equipped with heavier weapons for ground combat. Normally, 10% of the boarding parties on a troop ship are equipped as HWSs. (This is specified in the ship description. Also, Commander's Option Points can be used to purchase extras or convert standard marine BPs.) An HWS counts as two offensive points, but counts as a single regular boarding party for casualty and transport purposes. Heavy Weapons Squads function as normal boarding parties for ship boarding actions (i.e., they have only one offensive point in such case, they leave their mortars and rocket launchers behind). Non-commando/troop ships can purchase a maximum of two heavy weapons squads and/or convert a maximum of two boarding parties to heavy weapons squads.

(D15.82) GROUND VEHICLES: There are several types of ground vehicles. The offensive and defensive abilities of these are summarized in (D15.87). Except where noted in the rules, these can perform any GCV function, including S&D missions. All ground vehicles have a "crew" of some type, but this crew never leaves the vehicle, shares its fate, and is not reflected in the game (although it could be a feature of some special scenarios). There is no "non-combat rate" for passengers carried in ground vehicles.

(D15.820) GROUND COMBAT VEHICLES (GCV): The basic GCV is an armored car with a phaser turret and the ability to carry one boarding party (in addition to its crew). Various types use wheels, hover-technology, or anti-gravity. It can be transported (including its crew and one boarding party) by either an HTS shuttle or by three transporters (all from the same ship) working together; see (G25.211) for specific instructions. (Andros can move vehicles with one transporter, paying two points of power.) Ground vehicles are used *only* in ground combat. Commando and troop ships (and pods/pallets) will have GCVs in their cargo storage; the exact number is specified in the ship description.

(D15.821) GROUND ASSAULT VEHICLE (GAV): This is treated as a GCV, except that it cannot carry an infantry unit, has more offensive points, and costs more. Any commando or troop ship can replace one GCV with a GAV using Commander's Option Points.

(D15.822) TANK: This is a hover-tank (some use anti-gravity) with heavy armor and firepower. A tank carries no passengers (beyond its crew). Units already on planets can replace some of the GCVs with tanks (or buy extra tanks) using Commander's Option Points. Tanks cannot be disassembled or moved by transporter and are seldom carried on ships, although they can be bought with Commander's Option Points. (They are often built on planets from kits, a process taking a week or more. This is the only way to get large numbers of tanks onto a planet.) In assaults, they are landed by special ships or by heavy transport shuttles.

(D15.823) ARMORED PERSONNEL VEHICLE (APV): This is a GCV without the phaser turret and is able to carry two infantry squads (BPs). GCVs can be replaced with APVs at no cost and with no restrictions. Additional APVs can be purchased with Commander's Option Points.

(D15.824) COMMAND POST VEHICLE (CPV): This is a modified APV used for command and communications. Any group of ten or more GCV/APV/GAV vehicles which includes one CPV has a +1 modifier for the combat die roll of one group of ten offensive points. It can carry two infantry squads (BPs) or a crew unit. Forces on a planet or ship can replace one GCV or APV with a CPV for the appropriate cost.

(D15.825) TRUCK: This is a hover (or anti-grav) truck to carry cargo. It has no offensive ability, but can carry four squads (BPs) or two crew units or five points of cargo.

(D15.826) TRANS-HOWITZER: This is an armored vehicle carrying a small transporter (able to fire transporter artillery) and five rounds of ammunition. The Trans-Howitzer can attack units in the same ground combat location (including its remote areas) and not in other GCLs. The transporter cannot be used to move cargo or personnel.

(D15.827) ARMORED ARTILLERY AMMUNITION VEHICLE: This variant of the GCV carries five rounds of transporter artillery ammunition for a Trans-Howitzer.

(D15.828) COMBAT ENGINEER VEHICLE: This armored unit has the same effect on (P2.75) as a combat engineer squad.

(D15.83) THE MILITIA: Crew units and other personnel not normally assigned to combat duty can be pressed into service in an emergency. A ship needing extra ground units to take over a ground installation (or a ground installation under attack) could "draft" its surplus crewmen for this purpose.

(D15.831) Crew units can be converted into militia squads; each crew unit becomes one militia squad when converted.

(D15.8311) A number of crew units equal to a minimum of 50% (round fractions up) of the original crew (including boarding parties and deck crews) must remain as crew units; others are eligible for conversion to militia.

(D15.8312) A given ship or GCL can convert one crew unit per turn into a militia squad. (Size-2 units and battle stations can convert two crew units to militia per turn; size-1 units can convert five.)

(D15.8313) Ships and ground combat locations cannot begin converting crew units to militia squads until enemy units have boarded the ship or ground units have landed at a GCL. A ship can begin converting crew units to militia if it has boarded an opposing ship, but not before it begins the boarding action (i.e., transports over the first boarding parties or lands them aboard the enemy ship in a shuttle). Exception: At WS-III a ship can convert crew to militia before the scenario begins under the provisions and limits of (S4.13). See also exceptions in (D16.134) and (D16.522).

EXAMPLE: A Klingon F5 has 22 crew units of which four represent the eight boarding parties. One crew unit was killed earlier by ten points of internal damage. As eleven crew units must remain as crew units, six crew units could be converted into six militia squads to reinforce the eight boarding parties.

(D15.832) Militia is created during the Initial Activity Phase (Assign Guards Step) and disbanded during the Record Keeping Phase (Legendary Officer Step).

(D15.833) A militia squad is twice as large as a boarding party (and consequently takes twice the effort to transport). Militia squads can never be transported (by shuttle or transporter) into a combat situation, i.e., they cannot be used offensively on the turn of arrival but could be used as casualties. Militia squads are carried on a single shuttle at non-combat rates but can leave a combat area in a shuttle at the combat rate (i.e., evacuation). Militia squads cannot be divided in half for transportation purposes.

(D15.834) Each militia squad has one offensive point and absorbs one casualty point. (While a militia squad is twice as large as a marine boarding party, it is far less effective in combat. Note that, in an earlier edition of this rule, the militia was able to absorb more

casualty points. This was changed because the effect was to make militia more effective as shock troops than the regular Marines.)

(D15.84) COMMANDOES: These are specially trained boarding parties for use primarily in hit-and-run raids. Commandoes have other special combat attributes; see the special boarding party tables for (D7.6), (D7.61), (D7.62), (D7.8), and (D7.831) in *Basic Set*, page #54. Commandos are rare (no more than four teams per troop ship; two per other ship), cost twice as much as regular boarding parties, and are no different in combat other than hit-and-run raids. They can be purchased using Commander's Option Points. Some ships have commandoes in their BPVs; these are noted in the ship descriptions. See also Prime Teams (G32.0).

(D15.85) CIVILIANS: In some scenarios, civilians may be designated as being at a particular location. These can include non-combatant crew personnel. Civilians have no offensive potential, cannot become militia (unless allowed by a scenario rule), and cannot be given up as casualty points if ground units are available. They can be targeted by the enemy using specific allocation. They are, sadly, little more than targets for atrocities.

(D15.86) COMBAT ENGINEERS: This is an expensive type of infantry with special added abilities. If included in a (P2.75) attack, reduce the die roll by one. Their offensive potential is two in passage combat (D16.63). A ship can buy two of them as Commander's Options; commando ships can buy six. Combat engineer squads count against the limit on the number of heavy weapons squads a ship can purchase (D15.81).

(D15.87) GROUND COMBAT UNIT SUMMARY

UNIT TYPE	OFFENSIVE POTENTIAL	CASUALTY PTS TO DESTROY	COST BPV
Boarding Party	1	1	0.5
Commando Squad	1	1	1.0
Hvy Wpns Squad	2	1	1.0
Militia Squad	1	1	0.5
Combat Engineer	1	1	1.0
Civilians	0	2	—
GCV	3	3	1.0
GAV	6	3	2.0
Tank	6	6	3.0
Trans-Howitzer	0	3	3.0
Armored Ammo Veh	0	3	2.0
APV	1	3	1.0
CPV	0	3	2.0
CEV	2	3	3.0
Truck	0	1	0.2
Control Station	0	2*	—
GDS	2	2	2.0
Admin Shuttle-P	2	2†	2.0
Admin Shuttle-S	0	2†	1.0
Admin Shuttle-Si	2	2†	1.0
A-Admin Shuttle	2	2†	3.0
MSS Shuttle	2	2†	2.0
MSS-S Shuttle	2	2†	2.0
A-MSS shuttle	2	2†	4.0
MLS Shuttle	2	2†	3.0
MLS-S Shuttle	2	2†	2.0
A-MLS Shuttle	2	2†	4.0
MRS Shuttle	4	4†	10.0
MRS-S Shuttle	4	4†	3.0
A-MRS Shuttle	4	4†	11.0
MRS-X	4	4†	12.0
GAS Shuttle	4	4†	4.0
GAS Shuttle-S	2	4†	2.0
GAS Shuttle-Si	4	4†	2.0
A-GAS Shuttle	4	4†	5.0
GBS Shuttle	6	4†	4.0
GBS Shuttle-S	4	4†	2.0
GBS Shuttle-Si	6	4†	2.0
A-GBS Shuttle	6	4†	5.0
HAS Shuttle	4	7†	9.0
HAS Shuttle-S	4	7†	5.0
A-HAS Shuttle	4	7†	10.0
HFS Shuttle	0	6†	10.0
HFS Shuttle-S	0	6†	5.0
HRS Shuttle	0	6†	10.0
HRS Shuttle-S	0	6†	5.0
HTS Shuttle	0	4†	6.0
HTS Shuttle-S	0	4†	4.0
A-HTS Shuttle	0	4†	7.0
LVP Shuttle	0	10†	13.0
Pros Shuttle	2	2†	7.0/2.0
Pros Shuttle-S	0	2†	6.0/1.0
Pros Shuttle-Si	2	2†	6.0/1.0
RS Shuttle	2	2†	3.0/2.0
RS Shuttle-S	0	2†	2.0/1.0
RS Shuttle-Si	2	2†	2.0/1.2
RSh Shuttle	2	2†	3.0
RSh Shuttle-S	0	2†	2.0
RSh Shuttle-Si	2	2†	2.0
SVS Shuttle	2	2†	3.0
SVS Shuttle-S	0	2†	2.0
SVS Shuttle-Si	2	2†	2.0
VFS Shuttle	0	8†	13.0
VIP Shuttle	2	6†	10.0
Fighter/Bomber	1‡	†	Varies

* To capture; cannot be destroyed. See also (D15.33).
† See (D15.36).
‡ Might be increased by Ground Attack Pods (J11.34). If the fighter has no phaser or laser, its attack value is zero unless equipped with ground attack pods or a phaser pod. An unarmed fighter with a phaser-pod has an attack value of 1 but only for a single turn of ground combat, such a fighter might have a phaser pod and a ground attack pod and could continue attacking with just the ground attack pod.

(D16.0) ADVANCED MARINE BOARDING PARTY COMBAT

(D16.1) INTRODUCTION

(D16.11) PURPOSE AND SCOPE: The basis of this rule is to divide the base or ship into a number of areas, each of which is then resolved as a separate boarding party action.

The need for this rule in the case of a starbase is obvious (they are so big, and their defenders, if counted as being in a single area, would overwhelm the invaders). The use of the rule in ship-to-ship actions adds another level of play to the game.

On the boarding party diagrams, the large numbers indicate the docking points (C13.915).

Use the procedure in (D7.35) to resolve multi-sided combat situations.

(D16.12) BASIC DEFINITIONS:

ATTACK/DEFENSE: The defending player is considered to be the one who owns the ship or base being boarded. The attacking player is the one trying to board it.

UNIT: Each crew unit, boarding party, or militia squad is considered a "unit" for purposes of boarding party combat.

COMBAT/NON-COMBAT: Crew units are considered non-combat units. Boarding parties, militia, commandoes, etc. are considered combat units.

CONTROL Areas are (D16.0) areas of a ship or base containing one or more "control" boxes (bridge, security, flag, Aux, Emer). A "control station" is a group of contiguous control boxes, such as the two-box bridge of a Fed CA.

CONTROL OF an area is defined as being the only one to have combat units in that area, with the player originally owning the ship assumed to control ALL areas with no enemy units in them. Areas with units of both players are designated as "contested" areas.

(D16.13) CREW UNITS *(Optional):* This rule is not designed or intended to account for crew units, other than their potential for conversion to militia squads as defined in (D15.83). Players can, however, account for them more completely as follows:
(D16.131) Players will have to provide their own counters for each crew unit.
(D16.132) Crew units are divided more or less evenly between areas when beginning play. Movement between areas is as per (D16.3) and (D16.4).
(D16.133) When converting crew units into militia squads, you may not reduce the functioning crew below the minimum crew levels specified in (G9.41). At least one functioning crew unit must be in each area of the ship (or an adjacent area) to operate the systems in that area. The restrictions here and in (G9.41) are separate, and both apply at all times.
(D16.134) The owning player can convert one crew unit to a militia squad (or vice versa) on each turn (D15.83). Exception: (D16.522). The unit must physically be in the area where it is converted. A unit cannot move on the turn it is converted.
(D16.135) Cross References: See (D18.18) for a ship which has been surprised. For purposes of escape (D21.5), see (D21.313) for transporters, (D21.3422) for prisoners, and (D21.416) for shuttles. Remember that all of (D7.0) applies to each area within (D16.0). See (D7.51) for prisoners. See (G9.23) for wounded.
(D16.136) Individual sections of Klingon ships do not mutiny, nor does control of a section directly affect mutiny beyond the effects of (G6.22). (If control of the section destroys a security station, this would be an indirect effect.)

(D16.14) LEGENDARY OFFICERS: These special individuals (G22.0) require special handling.
(D16.141) LGFOs (G22.9) can function for (D16.0).
(D16.142) Legendary officers cannot move (G22.132) through an area controlled by enemy forces. They could enter such an area only if they were serving as an LGFO and accompanied by infantry units.
(D16.143) Legendary officers can only activate (D18.18) units in the same area as they (the officers) are located.

(D16.2) SEQUENCE OF PLAY

(D16.21) COMBAT RESOLUTION: All boarding party combat is resolved in the Boarding Party Combat Segment of the Final Activity Phase in the following order:

A. The defending player moves any of his units within the limits of the rules. Resolve Passage Combat if any.

B. The attacking player moves any of his units within the limits of the rules. Resolve Passage Combat if any.

C. *(Optional)* Unit counters in areas occupied by one side only are turned upside down. Unit counters in areas occupied by both sides are turned right side up. This provides for limited intelligence.

D. Boarding party combat is then resolved one area at a time. Combat on bases is generally resolved from the outside working toward the center; some bases have special rules.

(D16.22) STARBASE ORDER: Combat on a starbase is resolved in the following order. In each case, resolve all combat in areas of the designated type in order from A-F before proceeding to the next type: weapons, repair, pod, modules, cargo, power, hull, lab, flag control, auxiliary control, emergency control. This also applies to Stellar Fortresses.

(D16.23) BATTLE STATION ORDER: Combat on a battle station is resolved in the following order. In each case, resolve all combat in areas of the designated type in order from A-C before proceeding to the next type: weapons, repair, modules, hull, power, core. This also applies to sector bases.

(D16.24) SHIP ORDER: Combat on a starship is resolved in alphabetical order by the code letters of each area.

(D16.3) PLACEMENT OF BOARDING PARTIES ON THE DISPLAY

(D16.31) PLACEMENT: Each unit occupies a specific area at any given time. The units originally assigned to the ship may be placed in any area by the owning player at his option; this is done secretly and in writing before enemy units board the ship. Those boarding parties assigned as guards must be placed in the area containing the box they are guarding. See (G11.26) for robot guards of computer-controlled ships.

(D16.32) ARRIVAL: Units beamed aboard may be placed in any area at the owning player's option, but not control areas.
(D16.321) Invading units cannot beam directly into enemy-controlled control areas or those with disputed control; they must enter these areas by movement.
(D16.322) In the case of a ship (such as the Tholian PC) which has control boxes in all of its areas, invading boarding parties may transport into any area already controlled by other invading boarding parties. If no such area exists, they may transport into any area containing other invading boarding parties. If no such area exists, they may transport into the area which contains the fewest undestroyed control boxes. If two or more areas each have the fewest, the invading player can select one of them.

(D16.33) DEPARTURE: Units leaving the ship (via a transporter at another location) can leave from any area.
(D16.331) Those leaving via transporters located on the ship must leave from an area containing working transporters under friendly control. The transporters must be powered; see (D16.82) and (D16.83).
(D16.332) Units "leaving" from a transporter could go to other areas on the same ship, but could not be brought back.
(D16.333) If in control of a transporter (with the power allocated to use it), an enemy player could use it to bring more of his own boarding parties (from another ship) to the area containing the transporter within the limits of the other rules (shields down, active fire control, etc.).

(D16.34) DOCKING: In the case of bases, ships are presumed to be docked to the repair area for purposes of movement to and from the base. Ships dock to ships by (C13.9); the docking stations are noted on the diagrams.

(D16.35) SHUTTLE BAY: The shuttle bay on all ships is designated as being in a given area. Any units arriving by shuttle are initially placed in that area (or the area containing the bay they landed in, if the ship has more than one). If an enemy player controls an area including a shuttle bay, that player can, within the limits of (D7.541), launch the shuttles in the bay (and the player owning the ship cannot). The shuttles cannot be individually captured in a contested area, and the enemy player cannot fire the weapons on shuttles in an area he controls outright.

(D16.4) MOVEMENT OF BOARDING PARTIES

(D16.41) ACCESS LINES: At the appropriate point in the Sequence of Play (D16.2), each player can move his units from the area they are in to any other area that is connected by a line (known as a "passage"). This is a "movement rate" of one area per turn. Units cannot skip areas.

(D16.42) REQUIREMENTS: A player is not required to move all of his units. All units in a given area are not required to move or to remain together.

(D16.43) REACTION: If attacking units (which move second) move along an access line which was used in the opposite direction by the defending units in the previous step (see Sequence of Play), the defending player has the option to return any units which moved along that access line to the previous area.

(D16.44) MOVEMENT LIMIT: No more than ten "units" can be moved by one player along a single access line during a single turn. Movement under (D16.45) is not included in this limit.

(D16.45) TURBO-LIFT: Each ship or base has a turbo-lift system (essentially a multi-directional elevator). The player controlling the ship can, each turn, move one BP/Crew unit by this system up to three areas. (Battle stations and size class 2 ships can move two; size class 1 units can move five BPs/ crew units.) However, this unit must cease movement when entering an area which includes at least one enemy combat unit. The turbo-lift must have a power source (but does not consume power) to be used; see (D16.82) and (D16.83).

(D16.46) WARP ENGINES: Units cannot enter the warp engines. If enemy forces control ALL areas with access to a given warp engine, they may conduct (D16.54) attacks on that engine. Weapons mounted on the engines are assigned to an area by the boarding diagram tables.

(D16.47) POWER GRIDS: This system can be used to attack small ground bases connected to a power grid (R1.28P). In order to use this system the attacking player (the player who did not control the small ground bases at the start of the scenario) must first capture one of the small ground bases connected to the power grid. The defending player can also launch attacks down the access lines. All bases in a power grid are connected; an attacker who has captured one base could launch simultaneous attacks down the access lines on each of the other three bases, or attack just one or two of them. This can be in conjunction with attacks from outside the bases under (P2.75). If the attacker controls two of the bases, he will have two access lines to each of the two remaining bases, and if three bases are controlled, there will be three access lines to the remaining base.

(D16.5) BOARDING PARTY COMBAT

(D16.51) RESOLUTION OF AREAS: Combat is resolved via the rules in (D15.3). Each area is treated as if it were a separate "ship" under the (D7.0) rules, including the effect of any control stations in the area.

(D16.52) CONTROL AREAS: Control stations are resolved as in (D7.36).
(D16.521) Capture of a control station on a ship by casualties causes one box on the SSD of that control station to be destroyed. This is ignored if there is only one box of that station undestroyed. If the ship is captured, see (D7.52).
(D16.522) If no friendly boarding parties are present when a control station is attacked, one crew unit is immediately converted to a militia squad to defend the station (in excess of the normal conversion rate and limits). This militia squad cannot leave the station it is in, cannot defend a passage, is the last to be given up as a casualty, and is converted back into a crew unit the instant that all enemy forces leave the area.
(D16.523) Each group of control boxes in a given area (not each type) is considered to be a single control station (e.g., a D7 boom has a two-box bridge, a one-box emergency bridge, and a one-box security station).

(D16.53) COMBAT LIMIT: No more than ten units belonging to one side can participate in a single combat, including a passage combat. Only one combat can happen in each compartment/ passageway.

(D16.54) VANDALISM: If there are no enemy units in the area during the Boarding Party Combat Step, each group of five units (ignore smaller groups) may destroy one box (on the SSD) or one crew unit within the area. Units involved in vandalism cannot also be involved in combat (e.g., defending passages into the area).
(D16.541) The boarding parties in an area they control can determine whatever the owning player of the ship knows about its contents. They can determine (and therefore must be told) the contents of each drone rack, what is loaded on each fighter, the damage status of each shuttle, which shuttle is a web anchor or cloaked decoy, etc. They cannot unload drone racks, fighters, etc., since those are "crew" functions.
(D16.542) Boarding parties cannot destroy T-bomb storage (except mine racks) or fighter supplies (warp boost packs, chaff packs, spare pods) or reload drone (or ADD or plasma-D) storage, shield boxes, excess damage, damage control. Exception: Destruction of a "cargo" box destroys its contents.
(D16.543) Cloaking devices, sensor and scanner tracks, Orion suicide bombs, aegis, UIM, and DERFACS are all located in the same area as the main bridge and can be vandalized only if that area is held.
(D16.544) A player can vandalize his own ship. See (U7.126).

(D16.55) SECURITY STATIONS: Each security station (whether one or more boxes) can use its (D7.422) die roll modifier in their own area *and* in one other area. The other area can be selected each turn. Note the maximum adjustment. X-ships use this same procedure; see (XD7.422).

(D16.56) GUARDS (D7.83) have no offensive capability but can be given up as casualties (or attacked by Selective Allocation). The presence of guards does "contest" the control of an area.

(D16.6) PASSAGE COMBAT

Units from one player who have undisputed control (no enemy combat units present) of a given area may attempt to prevent units from another area from entering their area along an access line.

(D16.61) CONTROL DETERMINATION: At the first of each of the two movement steps (D16.21), the non-moving player must determine if any compartments are under his exclusive control and determine if he will oppose the entry of those areas by enemy units. He then designates some of his combat units to defend against each access line. No unit can defend against more than one access line.

(D16.62) FORCED ENTRY: If units attempt to enter an area occupied by enemy combat units qualifying under (D16.61), the enemy player may declare that he will oppose their entry. Entry by turbo-lift (D16.45) would also be considered forced entry.

(D16.63) ENTRY BATTLE: In the case of (D16.62), combat takes place immediately (during the Movement Step) between the combat units trying to move and the combat units trying to prevent movement (no others are involved).
(D16.631) In this case, all defending units (those trying to block movement, not necessarily the units of the host ship/base) are doubled in offensive capability but not in their ability to absorb casualties. See Combat Engineers (D15.86).
(D16.632) If the moving units score more casualty points than the blocking units, they may enter the area if they wish. If not, they may not (even if all defenders were eliminated). Units involved in passage combat may (and probably will) participate in regular combat in the following combat step.

(D16.64) COMBAT LIMIT: Only ten units can attack or defend along a single access line. Note that more than ten units may attack an area by passage combat (although no more than ten by any one access line), although no more than ten could fight a battle later in the sequence inside that area. Two different forces cannot attack through the same passage line during a single turn.

(D16.7) CAPTURING THE BASE OR SHIP

At the start of each turn, whichever player controls one or more undisputed control areas (the others being disputed or destroyed) owns and controls the ship or base for all purposes. If both players control one or more undisputed control areas, the original (not the most recent) owner controls the ship or base for all purposes.

Note that a captured base or ship is still under the restrictions that weapons cannot be used until the safety interlocks are removed (D7.55), a process that could take several days or weeks (longer than the scenario will last). See (G22.75) for legendary officers unlocking weapons.

(D16.8) INTERACTION WITH THE MAIN GAME

Interaction between this module and the *SFB* combat system is resolved according to this section.

(D16.81) DESTROYED AREAS: If all boxes within a given area on the SSD are destroyed, that area still exists and units can enter and exist there. However, there is no (D16.63) benefit to defenders.

(D16.82) CONTROL OF AN AREA: If one player controls a given area (D16.12), that player controls what is done with the systems contained in that area within the limits of (D7.54). Thus, if the attacking player controlled weapons area A of a starbase, he could operate its transporters and tractors just as if he controlled the entire base. He could not, of course, control the weapons (D7.55). Negative tractor (G7.354) cannot be turned off by the enemy unless the ship is captured.
(D16.821) If power is required, it must be provided by an area under friendly control, and that area must be connected by an unbroken string of undestroyed "adjacent" areas under friendly control. Power could be supplied by a ship docked at a base. See (D16.832).
(D16.822) If control has not been resolved, the original owning player can use the systems of that area during the next turn. For example, if Federation Marines captured area E of a Klingon D7, they could prevent the use of the right disruptors. However, during the battle before this area was captured, and as soon as Klingon units return to the area, the Klingon player can use those weapons.
(D16.823) Repair systems on a foreign ship or base cannot be used even if the area is under control.
(D16.824) If enemy units board a ship, the owner of the ship must designate what portion of any phaser capacitor power and battery power is in any area or areas containing enemy boarding parties for as long as those boarding parties are present. Power from contested areas can be used, but use of power in enemy-captured areas is controlled by the enemy forces.

(D16.83) ENERGY ALLOCATION: The owning player (only) fills out an Energy Allocation Form, using only power produced by systems in areas he controls or where control is disputed. The other player need not fill out an Energy Allocation Form, but must have power for whatever equipment he is trying to operate, as above.
(D16.831) It is assumed that all areas include emergency life support capability, so if an area held by one player is without power and unconnected to an area able to provide power, the crew and boarding party units in it are unaffected.
(D16.832) If enemy forces control all areas with access to a warp engine, the power from that engine is available to the enemy, but not to the owner of the ship.

(D16.84) COMMAND FUNCTIONS: The owning player must have undisputed control of at least one control area to execute self-destruction, separate sections, adjust fire control, operate EW, maintain lock-ons, etc. Even so, the enemy may attempt to prevent self-destruction by (D7.7).

(D16.85) DOCKING: The player in control of the "repair" area of a pod/module controls the ability of ships to dock and undock from that module.

(D16.86) CASUALTIES Damage to a given area can cause boarding party (and crew) casualties. The player controlling the ship selects where each damage point will be scored.

If there are units from both sides in an area which received damage, and the total damage points to that area require a boarding party casualty, both players roll one die. (There are no adjustments.) The player with the lowest die roll (re-roll any ties) removes one of his units.

(D16.87) REPAIRS: Damage control cannot repair a box in an area the owning player does not control, and a friendly crew unit is needed to execute any repairs.

(D17.0) TACTICAL INTELLIGENCE *(Commander's Level-Optional)*

In many combat situations, captains had to engage an enemy force with little or no information as to what specific types of ships they were fighting before they were actually engaged. This system explains how you go about identifying enemy ships that you are engaging.

It must be noted that enemy actions may reveal information before the tactical intelligence system will. If a Klingon D-hull launches plasma torpedoes, it is probably a Romulan KR. If a Federation CA is operating under the Patrol Scenario rules (S8.0), it is probably not a CVS carrier, as a carrier must have its escorts when under the Patrol Scenario rules.

(D17.1) DEFINITIONS AND OBSERVERS

These definitions apply only within the tactical intelligence rules unless specified otherwise in the rules.

(D17.11) LEVEL OF INFORMATION: A specific amount of information is obtained under this rule and designated by a letter in (D17.4) below. "A" is the lowest level of information (the least known), "B" is next, and so on. The information at a given level includes all the information available at the earlier levels. The terms "information level" and "level of information" are interchangeable.

(D17.12) SHIP: Any size class 4 or larger vessel or base. See the chart in (D17.3). PFs, while normally ships, are treated as a separate category under (D17.0).
(D17.121) A "scout" is any size class 4 or larger vessel that has an operable (i.e., unblinded and undestroyed) special sensor channel (G24.0) powered and assigned to gather tactical intelligence (G24.29).
(D17.122) A scout-PF (K1.75) counts as a SWAC (J9.0) if it has a powered channel operating for intelligence gathering (G24.29). A scout-interceptor has no special Tac Intel capability and (like all interceptors) is treated as a PF.
(D17.123) Small and medium ground bases [size 5 units, see (P2.76) and (R1.28)] count as PFs for this purpose. Size class 4 and larger bases on a planetary surface are treated as ships.
(D17.124) A "non-standard modification" is a player-defined feature installed under the ship modification rules to be presented in a future product. See (S3.3) and (D17.4) Levels J and K.
(D17.125) Naval auxiliaries (R0.6) and freighters (R0.6) obtain information using the MRS, PF, EWF column.

(D17.13) A MANNED SHUTTLE, for purposes of (D17.3), is any shuttle actually manned by a pilot or crew (not a robot MSS, suicide, seeking, or SP). Shuttles can detect the presence of a non-standard modification but cannot identify it.
(D17.131) Manned SWACS (J9.0) and MRS shuttles (J8.0) are considered on a separate column on the chart in (D17.3). These units can detect but not identify a non-standard modification
(D17.132) EW fighters (R1.F7), including fighters with Sensor Pods (J11.42), use the PF column.

(D17.14) PROBE DRONE: A probe drone (FD6.0) can gather information beginning 1/4-turn after it is launched. It is set on a specific course and reports each level of information gained as it moves closer to the units under observation. These restrictions and requirements apply only to probe drones used for Tactical Intelligence (D17.0).
(D17.141) A probe drone can only report information on units in its FA firing arc. Probe drones can detect the presence of a non-standard modification but cannot identify it.
(D17.142) Defense satellites (R1.15) gather information as probe drones but have no FA arc restriction.

(D17.15) PROBES can be used to gain information. See (G5.0) for rules regarding the employment of probes.
(D17.151) When fired, a probe is presumed to move (immediately, as a direct-fire weapon) to a hex within six hexes of the launching ship. The direct route from the ship to that hex must be clear of any obstacles, such as a planet (P2.321), black hole (P4.23), or web (G10.65).

The probe then immediately gains information using the "Ship" column based on the range (and bearing) from the probe's hex to the target under observation.
(D17.152) A probe can only report on a single enemy unit and only functions for a single impulse; thereafter, it burns out and cannot be used again.
(D17.153) Probes can detect the presence of a non-standard modification but cannot identify it.
(D17.154) Probes can be used to explore areas which cannot be seen (such as behind a planet). In this case the probe is fired in a direct line as per (D17.151), but instead of reporting the data under (D17.152), it provides level C data on all units within two hexes (provided that a line of sight from the probe to those units is not blocked).
(D17.155) Probes used for this function gain the benefit of the launching unit's EW status, including the benefits of crew quality, lent EW and legendary officers.

(D17.16) FACING THE OBSERVING UNIT refers to the physical position of the item on the hull. For direct-fire weapons and plasma torpedoes, this is fairly obvious (it is based on the firing arc; if the weapon can fire at the observing unit, the observing unit can observe it); for other items (drone racks and shuttle bays), this can generally be described as being observable from a 180° arc on that side (or the rear half, or the front half) of the ship.

Note that most Klingon ships have their drone racks in or near the shuttle bays and would be observed from the RA arc. (This is easily seen from the SSD or noted in ship descriptions. Generally speaking, only those drone racks that replace other weapons are not "bay mounted." The boom drone racks of the C8 are one obvious exception.)

Lyran shuttle bays are, generally, visible only from narrow angles astern. This is approximated by the rear-firing arc of Klingon FX phasers (D2.33).

(D17.17) HEAVY WEAPON (for purposes of tactical intelligence) refers to any of the following: photon torpedo, disruptor, fusion beam, hellbore, mauler, TR-beam, phaser-4, plasmatic pulsar device, web caster, web snare, expanding sphere generator, plasma torpedo, particle cannon, web breaker, shield cracker, or rail gun. If future products add a new "heavy weapon" to the game system, it will be noted as such in its own rule or in Annex #7D. Stasis field generators have special conditions; see Levels F, G, and I.
(D17.171) Heavy weapons (above) in Orion or WYN optional weapon mounts are detected as heavy weapons. If another system is installed there, the mount is not identified at the heavy weapon levels but may, in various cases, be identified later or when used (e.g., phasers are detected at levels I and G).
(D17.172) Drone and plasma racks, phasers (except phaser-4), and anti-drones are not treated as heavy weapons for purposes of tactical intelligence.
(D17.173) The range of a disruptor cannot be detected by tactical intelligence.

(D17.18) OBSERVING UNIT is the one trying to find out things about the enemy unit.
(D17.181) The "target unit" is the (presumably) enemy unit being investigated. Note that every unit on the board will simultaneously be a target and an observer.
(D17.182) Ships (including bases, interceptors, PFs), manned shuttles, probes, and probe drones can perform observation.
(D17.183) Mines, plasma torpedoes, and drones [other than probe drones (D17.14)] cannot perform observation.
(D17.184) Normally, all units on one side will have all data available to any of their units. Exceptions would be when sunspots (P11.1), ion storms (P14.3), or other terrain block inter-ship communications.

(D17.19) EXEMPTIONS: Nothing in these rules shall be considered or interpreted as having any bearing on the following:
(D17.191) SHIPS:
(D17.1911) Q-ships, which are covered by (R1.7B) and look exactly like freighters under these rules until revealed.
(D17.1912) Captured (but unmodified ships) are a special case. If used under (U3.432) to infiltrate the enemy fleet, the fact that it is manned by the enemy would not be detected until specified in that rule.
(D17.192) SEEKING WEAPONS:
(D17.1921) Pseudo-plasma torpedoes (FP6.0), which can only be identified by their effect (or lack thereof) on their target.
(D17.1922) The identification of seeking weapons (including their targets) is covered by (F1.4).
(D17.193) Pseudo-pods (G14.6), which are reported as pods under this rule.
(D17.194) The EW levels of all units are always known (D6.32), including EW from lending (G24.2115). This includes the source of all EW points. See also (G24.36). A player cannot "turn off" built-in EW or terrain-induced EW.
(D17.195) Monsters, which are covered by their respective scenarios.
(D17.196) In the case of X-ships, players use (D17.0) but report an X-ship as being of the basic hull class on which it is based. Its identity as an X-ship is discovered indirectly, such as the identification of extra weapons or the amount of warp power at various levels or of its name (specific identity).
(D17.197) Anti-drone systems are something of a special case. ADDs added to a ship as part of a refit are not revealed until they fire, at which point all that is revealed is that an ADD is present. Other ADDs, including those which replaced drone racks, are simply reported as drone racks and would not be known as otherwise until they fired or until Level I when they are identified as to type (ADD-6, ADD-12, or ADD-30). Type-G drone racks are drone racks, not ADDs.
(D17.198) The fact that a shuttle is an armed (exception; Level M), rather than a fake, suicide, or scatter-pack shuttle is not revealed by tactical intelligence, but could be revealed by boarding parties (D7.604).
(D17.199) Mines (M0.0) do not gain tactical intelligence, and tactical intelligence cannot be gained about mines. Defense satellites gain tactical intelligence as probe drones (D17.14); tactical intelligence cannot be gained about defense satellites. Gaining data about mines (and defense satellites) is covered by (M7.5).

(D17.2) PROCEDURE FOR OBTAINING INFORMATION

The general concept is that, when a unit wishes to gain information about a specific enemy target, it uses the range to the target and chart (D17.3) to determine what level of information is available. Section (D17.4) then defines what information is included in that level.

(D17.21) PROCEDURE: The observing unit obtains a given level of information about a target by being at (or closer than) the listed *effective* range for that level of information listed on the chart in (D17.3). See (G16.403) for a unit in stasis.

EXAMPLE: A ship with scout channels assigned to Tac Intel (G24.29) seventeen hexes from an enemy ship would have access to information levels A-H. It could not ask for information from level I, as gaining this information requires being at a range of fifteen or fewer hexes. A ship without scout channels assigned to Tac Intel at a range of seventeen would only receive information levels A-E; level F requires a range of sixteen or fewer hexes.
(D17.211) For purposes of the chart in (D17.3), a crippled unit [see (S2.41) and (J1.33)] obtains information using the second column to the right of its normal column. If this shift takes the unit off the chart (e.g., a crippled shuttle), use the Probe Drone column.
(D17.212) An uncrippled unit with a sensor rating (D6.11) less than six uses the column to the right of its normal column. If this shift takes the unit off the chart, use the Probe Drone column.
(D17.213) A unit that is undermanned (G9.42) considers obtaining information to be a function requiring one crew unit.
(D17.214) A unit that is uncontrolled (G2.2) obtains information two columns to the right of its proper column. This penalty is not cumulative with the other penalties. If two penalties apply, use this one. If this shift takes the unit off the chart, use the Probe Drone column.

EXAMPLE: A Federation cruiser gathers information under the second (ship) column. With damage reducing its sensor rating to five, it gathers information under the third (SWAC) column. Crippled by further damage, it gathers information under the fourth (PF) column.

(D17.22) RANGE: The range for calculating the current level of information is the effective direct-fire weapon range (D1.4) from the observing unit to the target unit.

(D17.221) CLOAKED TARGET: How cloaked targets are handled will depend on which cloak rules are in use.

(D17.2211) If not using the optional hidden cloak rule (G13.61), the presence of a cloaked ship would be detected (for purposes of weapon status, i.e., the ship would detect an enemy and could begin arming weapons) at level A, or a range of 47 true hexes (double 47 to 94, then add five to yield 99, within the 100 effective hex range for a normal ship), but the specific hex would not be known. The player of the cloaked ship must indicate a hex that is within the "specified radius" of the actual hex that the ship is in. The "specified radius" varies with the information level as follows: four hexes at level A, three hexes at level B, two hexes at level C, one hex at level D, and zero hexes at level E. This procedure creates (in the opening stages of the battle) some of the effects of the hidden cloak rule (G13.61). See also (D17.55).

(D17.2212) If using the optional hidden cloak rule (G13.61) and the target is cloaked, the effective range is increased (G13.30), causing the amount of information learned to decrease. The ability to locate the cloaked ship is still governed by (G13.61). This may cause a few seeming anomalies (e.g., the ability to detect weapons on a ship when you don't know what hex it is in), but this is because of the electronic emissions from those systems (which is what you are detecting anyway). See also (D17.55).

(D17.222) CLOAKED OBSERVER: If the observing unit is cloaked, the effective range is the range that the target unit would use to gain information on the cloaked observing unit if there is no lock-on. This accounts for the limited observation capabilities of a cloaked ship. Cloaked ships launch probes under the same penalties as transporters; see (G13.42). Cloaked ships detect other cloaked ships just as non-cloaked ships do. See also (G13.56).

(D17.223) BLOCKED OBSERVATION: If the target unit is behind a planet, star, or other object that blocks observation and/or fire (as defined in the rules of such obstacles), information cannot be gained on that unit. See (P2.321), (P3.43), (P4.23), (P5.32), and (P12.1) for examples. See (C13.4823) for an internally docked unit.

(D17.224) ERRATIC MANEUVERS: If the observing unit is using EM (C10.0), increase the effective range for tactical intelligence purposes by ten hexes. EM used by the target has no effect on tactical intelligence beyond the EW points generated, which apply in (D17.26). The fact that a unit is performing EM will be known at level A.

(D17.225) TERRAIN: Certain types of terrain restrict the ability to gain tactical intelligence information in addition to any EW effects.

(D17.2251) Asteroids (P3.33), rings (P2.223), atmosphere (P2.51), nebulae (P6.2), dust clouds (P13.4), sunspots (P11.3), pulsars (P5.355), and black holes (P4.24) have an EW effect which may cause a Tac Intel level shift (D17.26).

(D17.2252) Radiation zones (P15.6) and ion storms (P14.1) limit range to 25 hexes.

(D17.2253) When in a nova or supernova scenario (P12.0), tactical intelligence cannot obtain information in addition to levels A-D (i.e., levels E-M are not achievable by any means). When playing in a nova scenario, many of the tactical intelligence rules will not function.

(D17.2254) The WYN radiation zone (P7.21) may block a lock-on, and sensor damage may have an effect under (D17.212).

(D17.2255) Gravity waves (P9.0) and heat zones (P10.0) have no effect on Tac Intel.

(D17.226) SILENT RUNNING (D17.75) affects the range for purposes of tactical intelligence.

(D17.227) HIDDEN UNITS (D20.0) have no fire control (and hence no lock-on), so the effective range is much longer when they are observing. Tactical intelligence cannot be obtained on hidden units until they have been detected.

(D17.228) LABS: Each lab assigned to study a specific target (maximum two per target) decreases the effective range to that target by one hex for Tactical Intelligence. No power is required for this function, but the lab may not be used for any other purpose during the turn.

(D17.23) SEQUENCE: A level of information is available in any impulse, during the Lock-On Stage of the Impulse Activity Segment.

Note that it is permissible to ask for information on every impulse, but it will be more practical to simply wait until the target reaches the next range bracket, when more information will be available. Also note that some data (shield strength, web strength, shield or PA levels) is immediately detectable at standard battle ranges and must be announced immediately by the owning player as applicable.

In large games with many players and ships, the players might agree beforehand to only ask for tactical intelligence data on certain impulses (e.g., those divisible by four, dogfight resolution interphases, etc.). Alternatively, one player per fleet can be assigned as "science officer" to constantly update tactical intelligence data with his opposite number. This is often the job of the deputy force commander, who uses the position to advise the commander and each of the ship captains as to threats and opportunities.

(D17.24) REQUIRED RESPONSE: Information about your units must be given whenever an enemy unit is close enough to obtain that specific data, and the player asks for it. The data must be true, but the player is not required to give information beyond that specified.

EXAMPLE: Level I reveals unrepaired damage to weapons facing the observer. If the observer does not ask for this information, it need not be revealed, although the other player must reveal shield data under (D17.713). However, the observer simply asks for "Level I information" or for "damaged weapons in view," he need not ask repeated questions covering each type of, or each specific, weapon.

(D17.25) PROLONGED OBSERVATION: Continuous observation of an enemy unit at the same range will produce additional data.

(D17.251) After a specific target unit has been within one level of information range bracket of a specific observing unit for a cumulative period of three turns (96 impulses) during a continuous period of five turns (160 impulses), the observing unit receives the next level of information.

(D17.252) After a specific target unit has been within one level of information range bracket of a specific observing unit for a cumulative period of ten turns (320 impulses) during a continuous period of fifteen turns (480 impulses), the observing unit receives yet another level of information.

EXAMPLE: A ship is 30 hexes from a base, gaining level of information D. After three turns, the ship also receives level of information E. After seven more turns (ten total), the ship also receives level of information F.

(D17.253) No more than two additional levels of information can be gained by prolonged observation.

(D17.254) Only size-5 units and larger, plus MRS and SWAC shuttles, can perform prolonged observation.

(D17.255) The range data in (D17.251) and (D17.252) is, like all range data, continually updated. If you are no longer qualified to receive a certain level of data, any changes detectable at that level would not be detected.

(D17.256) Prolonged observation cannot affect targets at strategic ranges. Prolonged observation cannot affect units using hidden cloaking unless the observing unit has previously had a lock-on to the cloaked target.

(D17.26) EFFECT OF EW: For every ECM shift (D6.34) in the target unit's favor, the level of information is reduced one level. For every ECCM shift in the observing unit's favor (in this case do not ignore negative results, simply drop the negative and take the square root), increase the level of information one level. This procedure can be used to gain Level M.

Note that the effect of obscuring items (asteroids, atmosphere, etc.) is accounted for by the EW rules, as these items produce ECM points for the target unit.

ECM from small target modifiers (E1.7) is included in this, i.e., a PF that is 30 hexes away with six points of ECM also has four points of ECM by virtue of being a small target for a total of ten points of ECM.

(D17.27) ENCOUNTER SITUATIONS: The tactical intelligence rules could be used to create an "encounter" scenario. This would require a large map and a non-playing judge.

During early portions of the scenario, the units would be moved in secret. This could be done by using two maps with the judge walking back and forth between them, or it could be done on paper using photocopies of small-scale hex sheets. Whenever any enemy unit came within range for level A information of another unit, the target unit would be placed on the main map.

Obviously, if two war cruisers detected each other at a range of 100 hexes, both would be placed on the map. If a cruiser detected, at a range of 100 hexes, a PF which could not detect the cruiser until a range of 50 hexes, the PF would be placed on the map but the cruiser would not. This is not perfect, in that the PF would know (when the judge asked for the counter) that he had been detected, although not by whom or from where. Avoiding this problem would require a continuation of the two-map system.

For purposes of the scenario, ships would remain at weapon status I until they had detected an enemy unit, at which time they would be released from the restrictions and could begin arming weapons.

Such a scenario would allow each side to hold reserves out of sight (so to speak) and would encourage wide flanking maneuvers, sacrificial units designed to draw in an enemy attack, meeting engagements, and recon missions on the enemy rear. Such a scenario would be particularly interesting with cloaked ships; see (D17.221). Base assaults would be another interesting type of encounter scenario.

(D17.3) INFORMATION CHART

The chart below is used to determine the levels of information available to various units at various ranges.

Level	Scout	Ship	PFS, SWAC	MRS, PF, EWF	Manned Shuttle	Probe Drone
A	150	100	75	50	35	30†
B	75	50	37	25	20	20†
C	60	40	30	20	12	10
D	45	30	22	15	9	6
E	30	20	15	10	6	3
F	24	16	12	8	5	1
G	21	14	10	7	4	1
H	18	12	9	6	3	1
I	15	10	7	4	2	0
J	12	8	5	3	1	0
K	9	6	3	2	0	0
L	6	4	1	1	–	–
M	See notes in (D17.4) Level M to gain this level.					

† Probe drones are limited to ten hexes (D17.14); these higher ranges are used for units shifted to this lower column.

Probes use the ship column (D17.151).

The ranges given are, in all cases, effective ranges (D1.4). The loss of lock-on (D6.123), scanner damage (D6.21), cloaked targets (D17.221), Erratic Maneuvering by the searching ship (D17.224), and other effects listed in (D17.22) or elsewhere could increase the effective range beyond the true range. For example, the true range to a cloaked ship (without a lock-on to it) is 47 but the effective range would be 99.

The maximum range may be limited by a radiation zone (P15.6) to 25 hexes; see also (P14.1).

Rules (D17.1), (D17.2), and others provide several adjustments and exceptions to the above table.

(D17.4) LEVELS OF INFORMATION

There are several specific levels of information, each providing a more complete description of the enemy unit.

STRATEGIC LEVELS

These levels are not used within *SFB*; they are used only in strategic level games. They are noted here to indicate the information available on ships entering the map.

S1: A force (a ship or group of ships) is present, but you cannot tell how many ships or what type they are. Explosions (mines, combat) can be detected somewhat farther away. A base using special sensors to sweep its sector would be detected at this level. A base trying to hide (e.g., an Orion base) would not be found at strategic levels and would be found only by the same means (below) as finding a ship. Active duty naval bases are well known (location, size) but tactical details (e.g., damage, refits, weapons arming) are found by tactical means (below).

S2: The total movement cost (per hex) of all of the ships (not the cost of individual ships) and the current speed of the force is known. Tugs are reported at their basic movement cost without pods regardless of pods carried.

S3: The total number of ships in the force is known.

S4: The movement cost of each ship in the force is known; tugs are reported at their basic movement cost without pods regardless of pods carried. Shuttles are simply listed as "an unknown number of shuttles."

S5: The location of all units within a radius of twice the level A radius is known within five hexes. Thus, a unit 217 hexes from a base (on a large map) would actually be somewhere within five hexes of the hex that the counter was in. This is more than enough accuracy to plan strategy or fire long-range type-IIIXX drones, but not enough to use direct-fire weapons. From this point, all targets can be tracked as individual units, except as provided in (F2.6). If, for example, several cloaked ships entered the scenario, the opposing player would always know which was #1 and which was #2, and if he learned some information about "cloaked ship #4," he would always know which cloaked target this information was associated with (regardless of which cloak rules were in effect).

A: SIZE CLASS DEFINITION

The specific hex location of the object is known; exception (D17.221).

The size class of the object is known; this includes drones [size class 7; see (R0.6)]. Whether or not a target is nimble is known.

Unvoided WWs are reported as a "second image" of a given ship (i.e., you know that one is a WW but not which one). Thus, a base could be engaging a target with its phaser-4s without knowing if it was a ship or a WW.

All information under the Strategic Levels is known.

The specific unit which fired or launched a weapon is known.

B: COARSE ELECTRONIC SIGNATURE DEFINITION

The empire of the ships is known. Note that foreign-built ships in the service of another power (e.g., KR, D7H, WYN) cannot be distinguished at this level (but clues will develop as data on the weapons is obtained). Also, generic units (bases, monitors, auxiliaries, etc.) are not distinguished by empire until level F.

Which, if any, shields are up is known. Minimum shields can be distinguished from full shields. Strength of shields is not known until level I.

The fact that fire control is active is known. Note that passive fire control can never be detected, but a ship not using active fire control is automatically on passive fire control.

The presence of a web (hexes it occupies) is detected.

An unvoided wild weasel can be distinguished from a ship by units (but never by seeking weapons except as provided).

The size of a plasma torpedo on the map can be detected (FP1.323).

The size of a ship or mine explosion can be determined.

The existence of an established tractor beam can be detected.

Which PA panels are active and their level is known.

The size and strength of an ESG sphere is known (G23.46).

The discharge of weapons which cannot be held (e.g., overloaded hellbores, disruptors, type-R plasma torpedoes, overloaded

photons being discharged to allow standard torpedoes to be loaded, etc.), or weapons voluntarily discharged, can be detected, and the strength of the discharged warhead is known (E1.241). This includes PPD pulses wasted when wavelock is lost. The fact that a weapon was ejected from the fighter facilities is known (J4.883).

C: CLASSIFICATION DEFINITION

The general hull type is known. This refers to the hull-type, such as Klingon D-class, Kzinti frigate, etc. Note hull types on Annex #10. If that hull type has not been seen before in your campaign, report it as "an unknown hull type."

Fighters can be distinguished as different from non-combat shuttles (which include admin shuttles, MRS, MSS, MLS, GAS, GBS, HTS, HAS, and SWAC unless they are revealed otherwise). Specific fighter type is not known.

Transporter activity (hex transporter is in) is detected.

D: COARSE HULL DISCRIMINATION

Certain sub-types of hull are known. This refers to subtypes of a general hull type, such as the D6M and D6V which have substantial outward modifications. These are marked on Annex #10 with an § symbol. The Turn Mode category, e.g., A, B, C, etc., is known, but some circumstances may conceal Turn Mode categories, e.g., ship with pseudo-pod(s) (G14.6), and are revealed under their own rules.

Conglomerate ships (TK5, OK6) can be distinguished, but variants of such ships cannot be distinguished from each other.

The presence of docked modules, pods, or PFs (including INTs) is detected. The specific type of attached element is unknown.

The size of fighter/shuttle (e.g., Large Fighter/HTS) is known.

Captured ships that have been modified to foreign technology (e.g., D7H) can be distinguished if their fire control is active, even at low power (D6.7) (otherwise, further data will be needed); unmodified captured ships are governed by (U3.43). Ships sold (e.g., KRs) would be detected by this procedure only by the originally-owning empire.

The number of damage points scored under (D17.61) is known. The detonation of explosive bolts (D17.74) is detectable.

E: FINE ELECTRONIC SIGNATURE DEFINITION

Heavy weapons fire and seeking weapons launch can be accounted to a specific mount if the mount is facing the observing ship. The target will, of course, always know what weapons were fired at it, by which enemy units, and with what effect; firing units will know this unless using (D17.61). Racks inside a shuttle bay cannot be detected unless they launch; even then, only the fact that a drone has emerged from a shuttle bay is announced, not which rack or what type of rack launched it. The specific bay that launched a given shuttle is detectable (D17.16) if the bay is visible.

There are specifically defined exceptions in the case of some plasma torpedo-armed ships. If the ship description specifically says that the tubes cannot be distinguished or are not revealed, the description overrules this rule.

The strength of a web is known.

The presence of aegis fire control on a unit and whether it is full or limited aegis can be detected; see (D13.5). (This may reveal that a carrier is present since few non-escorts have aegis and only escorts have full aegis.)

The total number of warp engine boxes operating at that specific point in time is known; see also (D17.72). Note that Orion engine doubling must still be announced during Energy Allocation; see (G15.2). Increases in power output by a legendary engineer (G22.43) will be detected.

The dissipation of energy to space from Andromedan PA panels (including the number of points) can be detected.

Tractor links may be identified as being "associated" with specific tractor system boxes (G7.341).

F: COARSE WEAPONS DISCRIMINATION

Plasmatic pulsars, hellbores, plasma torpedoes, and web casters facing the observing unit can be distinguished from other types of heavy weapons, and from each other; different types of plasma launchers cannot be distinguished. SFGs cannot be distinguished from the phaser bank they replaced until level I.

The total number of heavy weapons is known. Presence of individual drone racks (outside of the bay) and plasma racks is noted (i.e., the number of such racks is known), but the type is not known until level I. [For anti-drones, see (D17.197). For concealed weapons, see (D17.74).] SFGs which replace phasers are reported as phasers, not as heavy weapons.

Shuttles on a balcony can be detected if the balcony is in view of the observing unit (e.g., Klingon B10 or D7V from RA, Gorn ships or Fed CVA from L or R). The fighters detected on the balcony will be identified at Level H if the balcony can be seen at that point. Heavy fighters on mech-links can be detected.

The owning empire of a base or generic ship (e.g., monitor, auxiliary PFT, freighter, etc.) can be distinguished. (This may have been detected earlier by different means.) WYN monitors would be reported as such; which type would be determined only as weapons are detected.

G: FINE WEAPONS DISCRIMINATION

Phaser mounts can be individually distinguished (counted) if they are facing the observing ship (but not what type). Phaser fire can be accounted to a specific mount if the observing unit is in the firing arc of that mount. The total number of phasers is known.

Heavy weapons mounts facing the observing ship can be noted by type: plasma-F, plasma-G, plasma-S, plasma-R, photon, disruptor, hellbore, SFGs not replacing phasers, ESG, PPD, web caster, etc. Plasma racks can be distinguished from drone racks.

Probe launchers are detected.

Destroyed weapons cannot be detected as such. See (D17.74) for concealed weapons.

H: FINE CLASS DISCRIMINATION

Specific class of ship (or fighter, PF, or shuttle) can be distinguished if it has been in service on this frontier for at least a year or in service three years in any case. If it has not been in service long enough to be identified, it will look like whatever ship or fighter it was derived from, or if not derived from another class, it would be announced as being "…of a type not previously seen…"

The specific type of tug pod (e.g., cargo, troop, fire support), base module (e.g., hangar, PF, cargo), or PF is known. (This includes PF variants but not PF Leaders or Scouts. Of course, performing some function that only a PFL or PFS can perform will reveal this. Note that a PFS would be identified as such under level E if using its sensors and will always be known if lending EW.)

The specific type of fighter or shuttle is known. (This does not include EW fighters.) This cannot tell you if the shuttle or fighter is manned or on a seeking course.

The modules on a modular unit (e.g., MRN, SparrowHawk) are known.

I: VERY FINE WEAPONS DISCRIMINATION

Phaser-3s and phaser-Gs can be distinguished from each other and from other types. (This might be detected earlier by the rate of fire.) Phaser-4s can be distinguished from other types. Phaser-1s and -2s can only be told apart by usage. SFGs can be distinguished from the phaser banks they replaced. The presence of mine racks in Orion Option mounts can be determined.

Unrepaired damage to weapons facing the observing unit can be detected. Damage to multi-track drone racks, e.g., type H, and the number of magazines is detectable.

Type of drone rack (outside of the bay) can be distinguished. See (D17.74) for a concealed rack.

The number of damage points required to destroy a shuttle is known. The presence (on fighters) of external ordnance (drones, external ECM pods, type-D plasma torpedoes, etc.; the number but not the type is known; an ECM pod and a type-D both look like a drone) can be detected. The presence of drones or plasmas on scatter packs is not reported under this rule, except that fighters or MRS shuttles used as SPs will be reported as carrying whatever portion of their weapon loads they are actually equipped with.

Mine racks in shuttle bays cannot be detected. Mine racks which replace weapons are detected.

The strength of each shield (number of boxes) is detectable. Specific and general shield reinforcement is not detectable. See (D17.71) and particularly (D17.712) for special deception rules which provide a partial exception. The amount of power in, and level of degradation on, each PA panel bank is known.

J: POWER SYSTEM SIGNATURE

Any non-standard (player-installed) power modifications (engines or batteries of any type) can be detected. This includes substitutions (such as most warp reactors) as well as add-ons (which includes power systems in option boxes of Orion and other ships so equipped). Damage to power systems from previous battles is known. The total amount of power that the ship is generating (D17.77) can be detected; unused power systems cannot be detected. Increased non-warp power output due to a legendary engineer (G22.43) can be detected.

K: MODIFICATION DETECTION

PF Leaders and Scouts can be distinguished from other PFs. EW and two-seat fighters can be distinguished from other fighters.

Dummy weapons (D17.73) are exposed as such. Concealed weapons (D17.74) are detected, although what type of weapon is behind the panel is not known, but placement may give strong clues as to what it is.

Any other non-standard (player-installed) modification can be detected, including systems in option boxes. All unrepaired damage can be detected. Mech-links are detected.

Size-5 ground bases can be detected (they may have been detected earlier if they fired weapons or used special sensors).

L: SPECIFIC DISCRIMINATION

Whether a heavy weapon is charged or charging is detectable (although not the state or level of the charge). (**NOTE:** Phaser energy is stored in the capacitor system and cannot be detected. Energy stored in ESG capacitors or particle cannons cannot be detected. The arming of type-F plasma torpedoes, and all other types, can be detected.)

If a pseudo-plasma torpedo is present with a launcher, the owning player may report any arming state that he wishes for that launcher, but cannot report an arming state less than that of an actual torpedo in that launcher. At this level, the choices are armed, arming, or unarmed. A loaded launcher and its PPT are reported as a single loaded launcher, never as two loaded launchers. The specific type of torpedo (downloaded, EPT, shotgun) is not known at this level.

The name of the enemy ship (but not shuttles) is known. This is useful for campaign games and some historical scenarios but only if the ship has been scanned at level L during a previous scenario. What has been detected is not the name painted on the hull, but the specific and unique electronic fingerprints that distinguish the ship from any other.

Specific ground installations (e.g., cities) can be identified; size-5 ground bases can be distinguished as to type. See (F4.22) ballistic targeting.

M: LIFE FORM READINGS, ARMING STATE

This level can be gained by prolonged observation (D17.25), outstanding crews (G21.236), legendary officers (G22.34), or by an ECCM shift (D17.26).

Whether a shuttle on the board is manned is known, but you will not learn if it is a scatter pack, or suicide shuttle, or dummies of those types by this method. The number of crew units on a ship is known. See (D15.15) for data on GCLs.

The arming status of weapons (except power in capacitors) can be detected. What is actually revealed is the number of arming points of energy applied to that system (not counting holding, cooling, points lost due to rolling delay, points in a capacitor, etc.) including power applied on prior turns.

If a pseudo-plasma torpedo is present with a launcher, the owning player may report any number of energy points that he wishes for that launcher, but cannot report a number less than that of an actual torpedo in that launcher or more than the maximum that the normal (non-EPT, non-shotgun) torpedo the PPT can simulate would use.

(D17.5) RESTRICTIONS

When using tactical intelligence, the information available about an enemy ship is very limited. The normal procedures (i.e., ability to examine enemy SSDs) cannot be used.

(D17.51) KNOWN INFORMATION: The only information a player always knows is:

- the hex that each target unit is in [except where this conflicts with (G13.61), (D20.0), strategic levels, or specific scenario instructions];
- its facing, Turn Mode status, and slip mode status, except in the case of (D17.55);
- how many points of damage have been inflicted on the opponent (and each shield) except under (D17.61); and
- its speed.

Note, however, that if he scored a torpedo hit on a Klingon D-class hull, he might not know if this was actually scored on a disruptor, plasma torpedo, or special sensor.

(D17.52) CREW, OFFICERS: A player may never know (except by the effects, or a record of a specific ship name) whether a ship (or unit) has legendary officers or the quality of the crew or pilot, as the case may be. See (D17.6). A player may suspend using the abilities of outstanding crews or legendary officers to avoid revealing their presence. Poor Crews cannot suspend their effects, but will not be detected until they perform some action that reveals their presence.

(D17.53) SHIELD REINFORCEMENT: Specific and general shield reinforcement cannot be detected by the tactical intelligence system. Exception: see (D17.712) deception for a partial exception.

(D17.54) INTERIOR DOCKING: Units docked inside another unit cannot be detected by tactical intelligence. Externally docked items are noted at various levels. Tactical Intelligence cannot reveal numbers, types, or arming status of shuttles in a bay, numbers or types of drones in racks, launch rails, or storage, numbers of mines held in a mine rack, or anything else not specified in these rules or in the specific rules of any new weapons or systems added in future products.

(D17.55) CLOAKED TARGETS require special attention.

(D17.551) If using the standard cloaking rules, the facing, slip mode, and Turn Mode of the cloaked unit is known at level A. The hex location of the cloaked unit may only be known approximately under the procedure of (D17.2211).

(D17.552) If using hidden cloaks (G13.61), the provisions of (D17.2212) govern knowledge of the target hex and (G13.613) governs certain other knowledge.

(D17.6) SECRET DAMAGE *(Optional)*

This fascinating system requires a judge to supervise the die rolls and the recording of the damage.

(D17.61) PROCEDURE: The following procedure is used to secretly resolve weapons fire.

A. When a direct-fire weapon is fired, or when a seeking weapon reaches its target, the firing/launching player tells the judge, not the opponent, the information that would normally be told to the opponent (e.g., type of weapon).

B. The player operating the target unit then tells the judge, not the firing player, the details of his defenses (shields, reinforcement, etc.).

C. The judge then resolves the damage, based on the information provided. The judge reveals the amount of damage to the player operating the target unit and what type of weapons caused it; see (D17.64). The judge and that player then resolve this damage in accordance with the rules.

The firing player is told the number of damage points only if his unit (or another friendly unit) is at level D.

(D17.62) ANALYSIS: The damage scored may be detected in various ways: reduction in warp engine power at level E, damaged weapons at level I, other damage at level K. The judge will report any detectable damage or repairs.

(D17.63) EXPLOSIONS: The judge determines the explosion strength from the Master Ship Chart and announces this strength, but he does not reveal any of the data about the (D5.2) calculations (e.g., docked units).

(D17.64) WEAPON TYPES: Most factors about the weapons which hit your unit are known, such as the type of phaser (1, 2, 3, 4, G), whether the torpedo was overloaded, etc. There are some exceptions:

The warhead strength of a plasma torpedo and whether or not it was enveloping will be known, but not the specific letter type. Hence, you could not tell if you were hit by a G or F at short ranges.

The range limit of disruptors and whether they had the support of DERFACS or UIM would not be known. The fact that UIMs had burned out would not be known.

The warhead yield of a drone will be known, but nothing else about it unless revealed by the various drone identification rules.

(D17.7) DECEPTION *(Optional)*

These rules, many of which modify rules elsewhere in the game, can be used experimentally as part of the tactical intelligence system to deceive or mislead an opponent as to the true nature of your unit. These rules should not be used unless the tactical intelligence system is being used.

(D17.71) SHIELDS: Shields can provide information and disinformation to the enemy.

(D17.711) A player can voluntarily reduce the strength of any or all of his shields, by any amount, in an attempt to confuse the enemy as to the class of his ship. (This is also done to resist hellbore damage by some players.)

(D17.7111) This is done using the same procedures as dropping a shield, except that each reduction starts the waiting period for reactivation of the voluntarily dropped boxes over again. Shield boxes (representing part of a shield) dropped for purposes of deception cannot be raised for 1/4 turn.

(D17.7112) Shields can only be dropped (or restored) before the scenario begins or during the normal "Operate Shields" step of the Marines Activity Stage (6B7) of the Sequence of Play.

(D17.7113) As the specific number of shield boxes can be detected at level I, the deception will probably not be effective (as a deception) if the enemy can observe the change.

(D17.7114) In the event that all operating boxes of a shield are destroyed, any boxes inactivated for deception are also destroyed (without reducing the damage). This is because of the energy surge caused when a shield is penetrated; unfortunately it prevents some shield boxes being held "in reserve" to be activated and reinforced later.

(D17.712) A player may adjust his specific reinforcement so that it will appear, for tactical intelligence purposes, to be a regular part of the shield.

(D17.713) Any change in the shield strength (or its appearance) must be announced immediately if an observing unit is within the radius for level of information I.

(D17.72) WARP POWER: A player may voluntarily reduce his warp power output by simply not using some of it. This will affect the information given under level E. This status can only be changed during Energy Allocation; any change must be announced. This is not, in any way, treated as reserve power or reserve warp power (H7.0). See (D17.77).

(D17.73) DUMMY WEAPONS: Dummy weapons can be added to a ship for one point each [exception: (D17.735)]; any type of weapon available to that empire (see U7.28) can be used. See (S3.2) and Annex #6.

(D17.731) Ships of size class 1 can add six, 2 can add four, size class 3 can add three, and size class 4 can add two. Size 5 and smaller cannot have dummy weapons.

(D17.732) Dummy weapons cannot fire and cannot be hit. They will be reported as weapons, but will be exposed as dummies at level K, or when a damage point should have been allocated to them (and was scored on the next column of the DAC). Note: This is not a "free hit;" the damage point must be scored on something else according to the DAC. The deception would not be revealed if damage was scored on the ship but none of it was allocated to that weapon by the DAC. Note that this could be very difficult to detect under (D17.6).

(D17.733) Dummy weapons cannot be guarded; hit and run raids (D7.8) are automatically successful and expose the deception.

(D17.734) Dummy weapons cannot be used to simulate weapons that were removed to allow the installation of other equipment (e.g., sensors).

(D17.735) Dummy maulers or stasis field generators cost 25 points per ship. These are very effective weapons, and the "terror" effect of such a ship would distort enemy tactics and deployments.

(D17.74) CONCEALED WEAPONS: Phasers, plasma-D racks, anti-drones, and drone racks can be concealed behind metal panels.

(D17.741) Weapons behind panels cannot be detected until level K; they can be destroyed.

(D17.742) Weapons behind panels cannot fire unless the panels are blown clear by explosive bolts; that act is instantly detectable (including number of panels, weapons behind them, etc.) at level D. The concealed weapon cannot be fired until 1/8-turn (four impulses) after the panels are blown clear. This is done at the same point in the Sequence of Play where the system behind the panel would operate, i.e., in the launch drones step for a drone rack or the announce direct-fire step for a phaser, etc.

(D17.743) The cost of installing these panels is one point per weapon. For example, a Klingon D5L might conceal its extra wing phasers behind metal panels, appearing as a standard D5. See (S3.2) and Annex #6.

(D17.744) It is possible to install concealment panels in front of a dummy weapon (D17.73). For example, a D5 might do this, and then "blow the panels clear" at an intense moment to reveal the dummy phasers behind them and "reveal" the ship as a D5L, distracting attention from another D5 (perhaps a D5A or some other special variant).

(D17.75) SILENT RUNNING: By taking certain measures, a ship can make itself harder to detect. These effects are cumulative with cloaking devices, the +5 range modifier is added after multiplying the range by the appropriate coefficient.

(D17.751) If the ship meets the following requirements, the effective range for purposes of (D17.3) is increased 50% (round fractions of 0.50 up, 0.49 down): shields at minimum with no reinforcement, Speed 4 or less, fire control off, no active ECM, no weapons (except phaser capacitors, ADDs, or drone racks) armed. Type-F launchers cannot be armed and type-D plasma torpedoes cannot be activated while using silent running.

(D17.752) If the ship meets the following requirements, the effective range for purposes of (D17.3) is doubled: no shields, sublight speed, otherwise as (D17.751).

(D17.753) In both cases, the maneuver rate (C2.42) [which includes High Enegy Turns, Erratic Maneuvers, Tactical Maneuvers] is used and may prevent this system from being used.

(D17.754) Silent running is not affected by an atmosphere or any terrain (P0.0).

(D17.76) PHASERS: Phasers can be fired at a lower level to assist in disguising various refits and variants. See (E2.25).

(D17.77) POWER: If the power from a specific power system box is not allocated, that box is presumed not to be operating and cannot be detected at level J.

See (D17.72) and level E for warp engine power.

(D17.8) DETECTING REFITS

Refits are not detected per se; they are revealed when their elements are detected. For example, Federation refits are often noted when the added phaser-3s are detected.

(D17.9) IF NOT USING TACTICAL INTELLIGENCE

In cases where players are not using the tactical intelligence rules, the following conditions apply:

(D17.91) GENERAL: Information levels A-K will be known at all times after a lock-on is achieved, except as prescribed by special scenario rules or other rules. See (F1.23) for special rules regarding seeking weapon launchers.

(D17.92) EXEMPTIONS listed in (D17.19) remain in force under the terms of those rules. Other specific exemptions listed in various rules also apply. Note that (D4.14) will reveal the ship class and type.

(D18.0) SURPRISE *(Advanced)*

Starships do not remain on full alert continually and often are completely shut down for rest, maintenance, or resupply. This may happen around a starbase or anchorage, or when the fleet feels itself secure, or when convinced that the enemy will not attack.

Ships which are shut down for this purpose are referred to as being "inactive." Normally, at least one or two small ships will be "active" as guards; if so, this will be specified in the scenario. While it would be very unusual for a base to be surprised, it could happen. (There are recorded instances of battle stations being surprised, but no such incident ever involved a starbase.)

This system was first introduced in the scenario *Titan and the Unicorn* and is included here to facilitate its further use in other scenarios. While not strictly "optional," this rule will only be used if specified in a scenario or agreed to by the players as part of a scenario they create. Any of the rules in this section may be modified by specific scenario rules.

(D18.1) RESTRICTIONS ON INACTIVE SHIPS

Those ships which are declared "inactive" are under the restrictions below. The scenario instructions may expand or modify these restrictions. See also (D18.2) for additional restrictions during the first turn.

(D18.11) WARP: Inactive ships cannot use warp engines for power or movement. Warp reactors (except those on bases) are treated as APRs.

(D18.12) WEAPON STATUS: Inactive ships are at WS-0. In addition, their plasma-F launchers, ADDs, plasma racks, PPTs, and drone racks are not loaded. There is no energy stored in any weapons, including ESG capacitors, displacement devices, other holdable weapons, or mauler batteries; exception (D18.14).

(D18.13) SHIELDS: Inactive ships can only use their shields on minimum setting (PAs on standard).

(D18.14) POWER: Inactive ships can use their impulse engines, APRs, and batteries for power and can move (at sublight speed) and otherwise function normally. Reserve power can be used normally, but only with the available (e.g., non-warp) power. Mauler ships can have up to four batteries charged [exception to (D18.12) above]; these must be batteries not connected to the mauler if any such batteries exist.

(D18.15) CLOAK: Inactive ships cannot cloak. Once they become active, they can leave their warp engines shut down to reduce their cloaking costs.

(D18.16) SHUTTLES: The ready racks for fighters, and all fighters, are not loaded (including drones, plasma torpedoes, charges for heavy weapons, chaff, or add-on EW pods). Wild weasels, fighters, and other special shuttlecraft (suicide, scatter-pack) cannot be armed, loaded, or repaired. (This restriction is lifted once the ship is active, as is the case with all inactive restrictions not otherwise noted.) Fighters and shuttles may launch from an inactive ship on the second turn of the scenario, but will have no weapons except their phasers. MRS and SWAC shuttles will function normally after launch, but will have no weapons other than their phasers. If the surprised ship is destroyed, units may escape under catastrophic damage (D21.0), but all will be treated as unarmed (not even phasers can be fired until the shuttle spends a full turn in a friendly shuttle bay) and with no chaff or packs.

(D18.17) PFs AND INTERCEPTORS do not roll for activation and cannot separate from their tender before they are activated. They are automatically activated on the turn after the turn on which their tender is activated, e.g., if the PFT became active on Turn #3, the PFs would become active on Turn #4. Their plasma-F torpedoes are not loaded and cannot be charged until the PF is activated. This is an exception to (K2.434).

ANDRO: Andromedan satellite ships are governed by this rule.

(D18.18) MARINES: Only one-half of the boarding parties are available for combat. (Round fractions down when calculating the number available.) None can be used on hit-and-run raids. Legendary Marine Majors (G22.50) [and Legendary Ground Forces Officers (G22.9) on a planet] are exempt from this rule and (if not used on a hit-and-run) can activate 1-6 inactive boarding parties (roll one die) at the end of each turn so long as they remain on their original ship (or GCL).

(D18.19) WEAPONS: The only weapons which can be armed or fired by an inactive ship are phasers and maulers (D18.14). Drone racks, fighter/shuttle ready racks, plasma racks, and ADDs cannot be loaded. PPTs will function after the torpedo launcher is armed (completely) the first time. Inactive ships can use active, low-powered, or passive fire control, even on Turn #1. The ships are presumed to have used low-power fire control (D6.7) on the previous turn for local traffic control and navigation; they do not start with the passive fire control bonus (D19.31). A temporal elevator cannot function until the base is released from surprise (G31.36).

(D18.2) ADDITIONAL FIRST TURN RESTRICTIONS

Inactive units are under the following additional restrictions during the first turn of the scenario. The scenario instructions may extend these restrictions beyond Turn #1 or add additional restrictions.

(D18.21) ACTIVATION: Inactive units cannot roll for activation.

(D18.22) EW: Inactive units cannot use EW (D6.3), special sensors (G24.0), or aegis (D13.0). They can benefit from "natural source" EW points or receive lent EW, but a carrier cannot loan EW to its fighters. EW fighters, MRS shuttles, and SWACS which have become active can lend EW normally.

(D18.23) CREW: An inactive ship is considered undermanned (G9.41) but must still pay full life support costs (B3.3).
(D18.231) Legendary officers (G22.0) cannot function; the major (and LGFOs) cannot use his die roll under (D18.18).
(D18.232) Deck crews cannot function.
(D18.233) The effect of crew quality (G21.0) on an inactive ship is covered in (D18.3).

(D18.24) GUARDS: Boarding parties on inactive ships cannot be assigned as guards (D7.83).

(D18.25) TRACTOR - TRANSPORTER: Inactive ships cannot use negative (or positive) tractor energy. Inactive ships cannot use transporters.

(D18.26) ORION: An inactive Orion ship cannot use engine doubling.

(D18.27) MINES: Inactive ships (including bases) cannot place mines or transporter bombs. Inactive bases cannot operate command-controlled mines.

(D18.28) DAMAGE CONTROL: The damage control rating is reduced by two. Do not mark the track; just mentally subtract two on the first turn.

(D18.3) REACTIVATION

(D18.31) PROCEDURE: At the start of each turn (before Energy Allocation) except for Turn #1, the player controlling the inactive ships rolls one die for each of his inactive ships. If the die roll is equal to or less than the turn number, the ship is reactivated. The penalties of being inactive no longer apply to that ship.

EXAMPLE: Four inactive ships each roll on Turn #3. Their rolls are three, five, five, and six. The first ship (with the die roll of three) becomes active; the other ships do not.

(D18.32) SCENARIO: The scenario may specify a bonus or penalty to be added to the die roll.

(D18.33) OUTSTANDING CREW: In the case of an outstanding crew (G21.25), subtract one from the die roll on Turns #2 and later. The ship may roll without this bonus on Turn #1.

(D18.34) POOR CREW: Ships with poor crews (G21.15) remain under the First Turn Restrictions for Turns #1 and #2. In the case of a poor crew, add one to the die roll on Turns #3 and later.

(D18.35) X-SHIPS may roll for activation on Turn #1; see (XD18.31).

(D18.36) LEGENDARY OFFICERS: On Turn #2 and later, if the officer is concentrating solely on activation, a legendary captain (G22.23) or engineer (G22.42) subtracts one from the die roll. Officers are not cumulative with each other or with outstanding crews (D18.33). See (D18.18) for Legendary Marine Majors and Legendary Ground Forces Officers.

(D18.4) COMPUTER OPERATED SHIPS

These units (G11.0) cannot be caught by surprise if the computer is active. However, in some cases, the computer may be shut down for maintenance or modifications. In such cases, the computer does not function until the ship is reactivated, although the ship can begin rolling on Turn #1 under the normal status of the crew. [Computer-controlled ships are treated as outstanding crews (G11.2) while the computer is active, but as their normal status when it is not.]

(D19.0) PASSIVE FIRE CONTROL *(Commander's Level)*

The basic fire control system is an active one (D6.6), that is, one in which pulses of energy are sent out from the ship and their reflection from various targets and objects is used to analyze the conditions of local space.

An alternative system is known as "passive" fire control or PFC. Using this system, no energy is sent out from the firing unit; it relies on receiving the energy emissions of enemy units (their own fire control, the energy flux of their warp engines, their effect on the local magnetic balance, etc.).

Passive fire control is much less accurate than active fire control. However, it has a few advantages. It does not require power or reveal the intention to fire (i.e., the enemy may falsely assume that you are not in a warlike frame of mind since your fire control is not active). It may make the firing unit harder for the target to spot or hit. There is no restriction on the number of weapons which may be fired under PFC.

(D19.1) OPERATIONS

Passive fire control operates as described here.

(D19.11) LOCK-ON: As there is no lock-on, the effective range is double the true range (D6.123). Do not, however, add five hexes as would be the case with a cloaked target (unless, of course, the target actually is cloaked). Cloak and passive effects are not cumulative.

(D19.12) ELECTRONIC WARFARE: Targets fired at with passive fire control use EW normally; see (D6.62). Any naturally-produced ECM is counted. The firing ship cannot use ECCM, which is tied to the active fire control system. Scouts (including MRS and SWAC shuttles and PF scouts) using passive fire control cannot lend EW [see (G24.218)]. Ship-scouts (not shuttles) under PFC can lend to themselves under (G24.28).

(D19.2) RESTRICTIONS AND CONDITIONS

(D19.21) CLOAK, WW: Passive fire control cannot be used (to fire, launch, or guide weapons) by a cloaked ship (G13.51) or by a ship fading into or out of a cloaked state. Using passive fire control (to fire, launch, or guide weapons) voids a wild weasel, even if the weasel is in its "explosion period"; see (J3.41) and (J3.132). See also (D6.64) and (D6.65).

(D19.22) SEEKING WEAPONS: Passive fire control cannot guide or be used to launch seeking weapons except as noted herein.
(D19.221) Self-guiding seeking weapons (F3.42) can be launched under passive fire control within the limits of their normal rules and tracking arcs. These weapons must acquire their own lock-on immediately after launch. They cannot be launched at targets closer than five hexes as they need the initial longer range to improve their lock-on. (This is an exception to several other rules.) This rule does not provide an exception for any case where the ship would have been unable to launch under active fire control.
(D19.222) Type-III drones could be launched on a ballistic "Wild Boar" trajectory (FD5.255) and acquire a target somewhere down range. Targets for wild boars cannot be closer than five hexes range. "Tame boar" (FD5.252) targeting cannot be used.
(D19.223) Scatter-packs can be launched under (F4.4). No more than one SP can be launched on any given turn or within 1/4 turn of another SP on a previous turn; there could be several SPs on the board if they were launched over a series of turns. For purposes of (F4.42), a ship on PFC cannot control an SP. Note that the launching of any seeking weapon would void a Wild Weasel (J3.41).
(D19.224) This rule cannot be used by a unit with active fire control to launch additional weapons above its control limits. Although, of course, a ship on active or passive fire control could use ballistic targeting (F4.0) to launch seeking weapons.
(D19.225) A base using passive fire control cannot control mines; see (M5.27).

(D19.23) RANGE: The maximum true range to the target for direct-fire weapons can be no more than five hexes.

(D19.24) RESTRICTIONS on passive fire control are detailed in (D6.62). Many systems require active fire control and cannot function under passive fire control.

(D19.25) ERRATIC MANEUVERS: Passive fire control will not function while using EM; see (C10.52). A ship without active fire control which is conducting EM gains no benefits from PFC (D19.3) and cannot fire or launch any weapons while using PFC. The time performing EM does not count for gaining PFC benefits (D19.31), and any use of EM will cancel the PFC bonus and require the ship to begin earning it again after EM stops.

(D19.26) REACTIVATION: Active fire control can be restored at any time (D6.63), but cannot be used to fire or guide weapons until 1/8 turn (four impulses) after it is activated; see (D6.633). This rule is used for ships using wild weasels; see (D6.65). A unit may fire on Passive Fire Control while activating Fire Control, but is still on Passive Fire Control until its Active Fire Control is fully on line; this does not apply to units fading in or out of cloak (G13.13).

(D19.27) SHUTTLES can use passive fire control, but can only change modes (D6.63) at the start of a turn (in the Sensor Lock-On Phase). There is no restriction on launching or recovering manned shuttlecraft imposed by passive fire control (used by the launching or recovering ship), except that new tractor links cannot be established (D6.62).

(D19.3) BENEFITS

(D19.31) EW BONUS: As the firing unit is not broadcasting, it is harder to target. Any unit which does not have its fire control active for 32 consecutive impulses gains a benefit equal to two points of ECM, which is treated as being from a natural source. This benefit begins after 32 impulses without active (or low powered) fire control has passed and remains until active (or low powered) fire control is announced or the benefit is lost in some other way. This benefit is not cumulative with the small target benefits (E1.7) and is lost when the unit performs EM (D19.25).
(D19.311) A unit can be designated, at the start of a scenario, as having had no active (or low powered) fire control during prior turns. The unit, however, must be voluntarily reduced to WS-0 if this option is used. In some obvious cases where combat has already taken place, e.g., (SH33.0) in *Module S1*, this option is not available.
(D19.312) Cloaked ships can never receive the PFC benefit (D6.64), and time spent cloaked, cloaking, or uncloaking does not count as part of the 32 impulses required. If a ship with the PFC benefit cloaks, it loses the benefit and would have to begin earning it again after uncloaking if it wished to obtain it.
(D19.313) Units (e.g., fighters, PFs) launched with their fire control off do not gain this benefit until 32 impulses later. See (G19.46) for Andromedan satellite ships.

(D19.32) HIDDEN DEPLOYMENT: For undetected units, see (D20.25).

(D19.33) WARP ENGINES: If the PFC unit has its warp engines shut down (or has none) for one full turn and qualifies for the passive fire control bonus in (D19.31), all units add five hexes to the effective range when firing at the PFC unit. This effect is not cumulative with the effects of a cloaking device (although it is about as close to being cloaked as most ships can get). A warp engine box hastily repaired as an AWR counts as a warp engine box for this purpose.

Ships that have had their warp engines destroyed and jettisoned under (G12.6) can also qualify under this rule.

Bases cannot use this system.

(D19.34) LOSING BENEFITS: Taking certain actions or using certain systems can negate the benefits above.

The actions that void (D19.32) are covered in (D20.2).

The following actions and systems will void both (D19.31) and (D19.33): cloak (D19.312), EM (D19.25), AFC (or LPFC) activation (D19.26), and ESGs (D6.625). Ships cannot enter the WYN radiation zone (P7.215) while using PFC.

(D20.0) HIDDEN DEPLOYMENT *(Advanced Rule)*

Under some circumstances, a unit may begin a scenario hidden from the enemy (other than by a cloaking device). Such a unit is "undetected," and the counter is not placed on the board (its location is recorded secretly in writing).

Silent running, passive fire control, cloaking devices, small targets, dropping warp engines, etc. do not, in and of themselves, create the conditions of hidden deployment although they may create similar general effects.

This rule is intended to define those circumstances in which a unit arrived in the battle area early and has hidden itself among asteroids or other terrain.

Mines do not use these rules for detection; they use (M2.6) and (M7.0).

While not strictly "optional," this rule will only be used if specified in a scenario or agreed to by the players as part of a scenario they create. Any of the rules in this section may be modified by specific scenario rules.

(D20.1) QUALIFICATIONS

Units must satisfy certain conditions (not all of which are described in the game) to qualify as hidden. This will normally be specified by the scenario.

(D20.11) TERRAIN REQUIRED: An undetected unit must (to have that status) be inside some area or zone providing natural camouflage (i.e., naturally produced ECM points). In some cases both sides may be hidden.
(D20.111) Qualifying areas include: asteroid hexes, atmosphere hexes of gas giants, planetary/asteroid surfaces, nebulae, dust clouds, and ion storms.
(D20.112) Units cannot become hidden in or near other types of terrain, such as black holes, novae, the WYN radiation zone, gravity waves, heat zones, sunspots. See (D20.113).
(D20.113) Some areas allow a limited form of hidden deployment. A ship in a radiation zone (P15.6) or ion storm (P14.1), for example, would not be detected until the enemy approached within 25 hexes. Large asteroids (P3.43) provide a form of concealment in one direction.

(D20.12) PLANET: Units on the opposite side of a planet will also be hidden until a clear line of sight can be established, possibly with a probe (D17.15) or a probe drone (D17.14).

(D20.13) REQUIREMENTS: Units deployed in camouflage zones are not automatically hidden; they must be specified as having taken the necessary steps to avoid detection (i.e., it arrived some time before the opponent and did not use active fire control or other "noisy" systems).

(D20.14) AT START ONLY: A unit cannot become hidden during a scenario. While such actions as going behind a planet will break lock-on, they do not create the effect of a hidden unit. Exception, Jindarian asteroid ships (R16.1D).

(D20.15) DOCKING: All units docked to or inside (C13.0) of a hidden unit are also hidden. Units cannot dock with a hidden unit; doing so would reveal it.

(D20.16) GROUND BASES: Small and medium ground bases (P2.76) can be deployed hidden and would be revealed at Range 4. Once a given base has been spotted by an enemy unit, that base cannot be considered hidden in subsequent scenarios at the same planet.

These units can also be deployed on large asteroids; see (P2.747).

If using tactical intelligence (D17.0), do not use Range 4; use tactical intelligence level L (which reveals presence and type).

(D20.2) DETECTING A HIDDEN UNIT

A unit can be detected (i.e., forced to place the counter on the board) if any of the following cases take place. Note that an immediate lock-on is automatic except in the case of (D20.25), but in that case if another condition occurs in the four-impulse delay period, the lock-on is automatic and immediate.

(D20.21) FIRE CONTROL: The unit is revealed if it activates its active [including low-powered (D6.7)] fire control system (D6.633), uses special sensors (G24.0), or generates electronic warfare (D6.3) points (or receives EW points from lending). Built-in and terrain-induced EW would not reveal the hidden unit.

Note that active fire control is required for several other functions (D6.62), for example using transporters. Note that the unit would be revealed immediately even though its fire control would not be fully active for four impulses.

(D20.22) ENGINE POWER: The unit is revealed if it uses warp power to move or to make Tactical Maneuvers (C5.0), Erratic Maneuvers (C10.0), a quick reverse (C3.6), or a High Energy Turn (C6.0). The unit is revealed if it uses impulse power to perform any of these functions (except sublight Tactical Maneuvers and normal sublight movement). The unit is revealed when it commits power to movement; not the first time it changes from one hex to another or performs a Tactical Maneuver.

A hidden unit could make a zero-energy turn (C5.13) without revealing itself. Orbital movement (P8.0) will not reveal a hidden unit; neither will impulse power used for orbital stabilization.

(D20.23) DETECTION DISTANCE: A hidden unit is revealed if a detecting unit (ship, PF, or manned shuttlecraft; NOT a probe drone) moves within the specified distance.

(D20.231) The hidden unit is detected if the detecting unit moves within three hexes of an undetected ship (size 1-4), two hexes of an undetected PF (size 5), or within one hex of a undetected shuttle (size 6).

(D20.232) If the detecting unit is a scout (G24.2), PF scout (K1.75), or SWAC (J9.12) with an active channel set for function 24, 25, 26, 27, or 29, these ranges are doubled.

(D20.233) Small ground bases are detected as per (D20.16).

(D20.24) CLOAK VOIDING: The undetected unit is revealed if it takes any action or suffers any incident which would void a cloak (G13.4).

(D20.25) FIRING: An undetected unit which fires direct-fire or launches seeking weapons with passive fire control (D19.0) is revealed immediately, but cannot be locked-onto for four impulses (1/8 turn).

Discharging a weapon (E1.24) will reveal the unit.

(D20.26) DISPLACEMENT DEVICE: The hidden unit is revealed if it uses a displacement device (G18.0) on itself or a third party uses such a device on the hidden unit; see (D6.37). Such a device cannot be used on another unit without active fire control (D6.62).

(D20.27) LINE OF SIGHT: A unit can use hidden deployment if behind (on the other side of from the point of view of the searching units) a planet (P2.32); see also (D20.12). A unit can also hide behind a large asteroid (P3.43). Such a unit would be detected in any of the above cases or if a detecting unit established a line of sight [same conditions as lock-on, but see (D17.14) and (D17.15)] to the hidden unit clear of the planet.

(D20.28) LEAVING AREA: The unit is revealed if it leaves the area (asteroid field, etc.) which qualified it for hidden deployment. See (D20.22).

(D20.29) ANDRO: If a hidden Andromedan unit dissipates power into space from its PA panels, it is revealed.

(D20.3) LONG-TERM CLOAKING

It is theoretically possible for a ship (not a fighter) to go to an area, cloak, and remain cloaked for several weeks, at which point it could be considered totally hidden and would be undetectable under the usual procedures in (G13.61).

This status is almost impossible to achieve as it is virtually impossible to ensure that the enemy will appear at the appointed time and place for the battle. There is only one published case in which it happened in open space [the ambush of the Gorn cruiser *Rex* by Romulans in Y176; see (SH138.0) in *Module S2]*. There are a handful of known cases when this was done at a specific terrain feature as a contingency measure, such as the Orion ambush of a Federation squadron at Blackfoot Pass.

The ships must remain at low power to avoid electronic traces, causing the various effects listed below.

PFs (including interceptors) cannot use this procedure.

(D20.31) CREW: Because they must subsist on what provisions are on board, the crews are reduced. The cloaked ship will have a crew equal to twice the minimum crew (G9.4) for a ship of that type (but no larger than the original crew). There will be no boarding parties or deck crews.

(D20.32) LIMITATIONS: Ships hidden by long-term cloaking will have no drone (ADD, plasma-D) reloads, no shuttles or fighters, no PFs or interceptors, no PPTs, and no mines or T-bombs.

(D20.33) DEPLOYMENT: Ships hidden by long-term cloaking cannot be within ten hexes of each other (they cannot be docked) or of any base, planet, or moon.

(D20.34) STATUS: Ships hidden by long-term cloaking will be at WS-0 (S4.1) when the scenario begins (unless otherwise specified by the scenario rules), but can arm their weapons while remaining under cloak.

(D20.35) DETECTION: Ships hidden by long-term cloaking cannot be detected unless their cloaking devices are voided (G13.4) or they use any energy for any form of movement, i.e., they must have a maneuver rate of zero (C2.42). They can make zero-energy turns (C5.13) without being detected.

(D21.0) CATASTROPHIC DAMAGE *(Commander's Level, Optional)*

In some cases a ship receives so much damage in one instant that its computers know that it cannot survive. This is known as Catastrophic Damage or CD. In these cases, the computers institute certain pre-designated actions to save what can be saved.

NOTE: Only units of size class 4 and larger can declare CD; PFs, interceptors, shuttles, and similar small units cannot (although they might escape from a unit which declared CD). There are rules similar to CD for PFs (K1.91), interceptors (K3.9), and fighters (J6.6).

(D21.1) EFFECT OF CATASTROPHIC DAMAGE

Under certain circumstances, defined in (D21.2), the player owning a particular unit can declare CD to be in effect. The player can then take certain steps to save his crew and other elements. Depending on the circumstance that triggered CD, the unit in question will then proceed to its fate. Note that under (D21.22) the actual destruction of the unit may be several impulses later.

(D21.11) SEQUENCE OF PLAY

(D21.111) During the Movement Segment, determine if CD can be elected upon reaching the resolve explosions step of the Damage During Movement Stage (6A3). The cumulative effect of previous steps (asteroids, mines, seeking weapons, other ships exploding, etc.) might trigger CD. If there is a possibility this will happen, determine the cumulative effect of all of this damage (total number of points) before resolving any of it; use the (D21.23) procedure. The player must then determine if his ship is eligible for CD and, if it is, must declare CD or pass this declaration before resolving the damage as per (D21.231).

(D21.112) During other parts of the Sequence of Play, determine if the ship is eligible for CD after each step.

(D21.12) PURPOSE OF CATASTROPHIC DAMAGE: The purpose of the catastrophic damage procedures is to save the crew. There are two means: evacuation by transporter and escape (by self-mobile elements). Every effort must be made to move the crew to safety by one means or the other. Evacuation is covered by (D21.3). Escape is covered by (D21.4) through (D21.6). In some cases, cargo can be saved; see (G25.212).

(D21.2) WHEN CD CAN BE DECLARED

There are three circumstances for declaring CD to be in effect: self-destruction (known as SD/CD), impending destruction (ID/CD), and massive damage (MD/CD).

Note, however, that the option to declare CD in effect rests with the owning player. Even when it is to his advantage to do so, a player can never be forced (in the game) to declare CD. (In reality, it would be very unusual not to do so.)

(D21.21) SELF-DESTRUCTION: Should the player declare self-destruction in accordance with the rules (D5.0), CD may be declared at that point. After resolving CD, self-destruction proceeds normally.

Enemy boarding parties on board the ship at the time SD/CD is resolved may attempt to prevent self-destruction (D7.7) after the evacuation is conducted (as their normal once-per-turn attempt). They could attempt to evacuate by any means they controlled under (D16.82) if that rule is in use.

(D21.22) IMPENDING DESTRUCTION: This is difficult to enforce and depends on the reasonableness and fair play of the players. ID/CD may be declared by the owning player of the unit if impending circumstances beyond his control will cause the destruction of his unit. Note that, in this case only, the various actions of escape (transporters, shuttles, etc.) take place in the normal Sequence of Play. Circumstances subject to ID/CD include but are not limited to:

(D21.221) Being on a collision course with a planet, black hole, or other physical body that would result in the destruction of the ship, without any possibility of changing course by an action of the player, qualifies the ship to declare ID/CD. (This might include being in an atmosphere without power and subject to an imminent crash.)

(D21.2211) CD can only be declared if the ship is within four impulses of the projected impact.

(D21.2212) The ship can be locked (by the crew) onto a course that will guarantee destruction (even to a small moon or large asteroid); in this case the player (or one friendly to him) cannot change the course; enemy units which board the ship might be able to unlock the controls within the rules on preventing self-destruction (D7.7); at which point the ship's own navigation computers would randomly change course to avoid impact. (If the Turn Mode or sideslip mode are satisfied, the ship can avoid impact by this means. Even if not, the ship would roll normally for asteroid or moon collisions rather than deliberately impact.) The ship could, of course, be pulled to safety by a tractor beam from another ship.

(D21.2213) A ship could declare ID/CD if it is unable to avoid striking an ESG field that has sufficient power to destroy the ship. This applies only in the impulse before movement will cause contact with the field. ID/CD is declared after the ESG Step of the Seeking Weapons Stage (6B6) of the impulse before the ESG would contact the ship.

(D21.222) The approach of a large number of seeking weapons which, even though they will not all strike at the same time, are sufficient to destroy the ship. CD can be declared only after the first such weapon strikes (and before its damage is resolved) and only if there are enough weapons within three hexes of the ship (counting weapons known to be targeted on the ship and any weapons with unknown targets that could have the ship as a target) to insure destruction under the terms of (D21.23). All unidentified drones are assumed to be type-Is for this calculation. This clause can also be used if the ship is wave-locked by a large number of PPDs which have enough remaining pulses to destroy the ship. The player can, of course, await the impact of the weapon and use MD/CD (D21.23).

(D21.223) After declaring ID/CD, the owning player can operate no systems on the ship for 1/2 turn [exceptions: transporters (D21.224) and escaping units (D21.226)]; the enemy player may (within the rules) inactivate or destroy their seeking weapons and/or place boarding parties on the CD ship with the intention of capturing it or changing its course. Otherwise the ship will proceed to its destruction under the normal rules.

(D21.224) If ID/CD is used, the transporters (D21.3) can be used on every impulse until the ship is destroyed. (This is an exception to several other cases.)

(D21.225) Impending destruction cannot be declared if the cause of the event is a presumed enemy ability to employ direct-fire weapons (or launch more seeking weapons). A ship which (for example) suddenly discovers a much larger ship hiding in an asteroid field, or which is suddenly confronted by a much larger ship that uncloaks, or which is suddenly grabbed by the tractors of a much larger ship (e.g., a frigate suddenly confronted by a dreadnought) cannot declare catastrophic damage based purely on that fact. The enemy ship might choose not to fire, might miss, might be unable to fire, or might fire at other targets. The wording of (D21.221) and (D21.222) implies that only "inevitable collisions" can be used to declare ID/CD.

(D21.226) If the escape (D21.4) of a boom, saucer, satellite ship, PF, pod, docked ship, etc. is delayed one impulse, the number of crew units able to transfer to it is doubled. There is no additional benefit for longer delays.

(D21.23) MASSIVE DAMAGE: This is the most common basis for declaring CD. If the ship receives a number of internal damage points equal to or greater than the number of undestroyed boxes on its SSD (not counting shields; counting one sensor, scanner, and damage control box; and counting all excess damage boxes), the owning player may declare CD to be in effect. The damage is not actually resolved; the player takes the steps (D21.3) and (D21.4), after which the ship is declared to be destroyed and the explosion is resolved. Damage is not allocated but is assumed to be enough to destroy the ship (even though, in theory, there might not be enough to destroy it).

(D21.231) It may be impossible to tell, without actually resolving the damage, whether it will result in destruction of the ship or will be a few damage points short. In this case the owning player must decide before damage resolution begins whether or not to declare CD. If he does not declare CD and the damage, when resolved, destroys the ship, he cannot then declare CD in effect. The decision must be made without necessarily knowing if the damage will be fatal.

(D21.232) If the catastrophic damage rules are invoked for massive damage, follow the procedures in (D5.0).

(D21.3) EVACUATION BY TRANSPORTER

After catastrophic damage is declared, the player may evacuate some or all of his crew units by transporter.

(D21.31) CREW: The normal transporter rules (G8.0) are used to evacuate the personnel on board (including crew, passengers, marines, deck crews, etc.) except that:

- The once-per-turn restriction of (G8.112) is waived. Prior use of the transporters during that turn does not restrict their use for evacuation (even over several impulses), but (if the ship survives) the transporters cannot be used again within 32 impulses.
- The energy required in (G8.13) is not required.
- The number of crew units which can be transported per operation is covered in (G8.33).

(D21.311) Only undestroyed transporters (at the time CD is declared) can be used. The crew can be transported to other ships, locations, or units (including available planets and asteroids) within the limits of the rules, including (D21.32).

(D21.312) Those transporters located on sections which will escape under (D21.4) cannot be used.

(D21.313) If using (D16.0) Advanced Boarding Party Combat, only the player controlling an area (D16.82) can use the transporters in that area. (Enemy personnel on board can evacuate by this means.)

(D21.314) Other units can evacuate crew units with their transporters under the normal transporter rules (including the appropriate point in the Sequence of Play).

(D21.32) SHIELDS: The doomed ship automatically drops all shields. If the ship survives, the shields cannot be raised for 1/4 turn after the impulse in which they were dropped (D3.51). See also (D21.33).

(D21.33) DESTINATION: If the shields are up on the unit that evacuated crew units are sent to, that ship may drop some or all of them (D3.5); otherwise the transporter(s) cannot function. See also (D21.344).
(D21.331) Other ships within transporter range, including enemy ships, may voluntarily drop one or more shields in order to facilitate the rescue of the crew. Note that if the ship is within the explosion radius of the doomed ship, it will be damaged, but will have accomplished the humanitarian task of rescuing crewmen from the doomed ship (who might be exchanged for crewmen held by the enemy).
(D21.332) If enemy units drop shields but no crew units are sent there, the shields are restored immediately (in point of fact it was never dropped). It is considered to be extremely discourteous to fire on (or guide seeking weapons into or place a mine near) a ship that has dropped shields and accepted your own crewmen, resulting in a moral loss of the scenario and unfavorable effects on your career afterward. All crew experience (U7.9) is ignored for that scenario, and all legendary officers lose that status for that scenario (This provision will become almost impossible to enforce in multi-ship battles. Use common sense and discretion.)
(D21.333) No ship is required to drop its shields. If shields are dropped under this rule, this takes effect immediately (even if out of sequence), but except as noted the shield must stay down for the specified 1/4 turn. Exception: (D21.344).
(D21.334) Orion and Andromedan crewmen will not transport onto an enemy unit unless other crewmen of the same empire are already on that unit and engaged in boarding party combat (D21.342).

(D21.34) TRANSPORTING INTO COMBAT: Units may be transported indirectly into a "combat" situation [as defined by (G8.31)] by the procedures in (D21.341) and (D21.342) below. Units may not be transported directly into a "combat" situation.
(D21.341) Units transported to a planet where there is ground combat under (D15.0) land in remote areas (D15.7).
(D21.342) Units transported to an enemy ship immediately surrender unless there is a boarding party action being conducted on that ship at the time CD goes into effect; in which case see (D21.343) and (D21.344).
(D21.3421) For purposes of this rule, the boarding party action must involve at least one unit of boarding parties (or militia, commandos, or other combat infantry) which arrived on a preceding turn and which survived boarding party combat at the end of the previous turn.
(D21.3422) Surrendering units are locked in security and cannot be rescued unless the ship is captured, or under provisions in (D16.0), or as otherwise provided for in the rules. (The capturing player designates the area in which the prisoners are held. If enemy forces capture that area by (D16.0), they can release the prisoners in that area and convert them all to militia at the standard rate, i.e., one per turn (D15.8312).
(D21.343) Units transported under the provisions of these rules to a ship involved in boarding party combat cannot be used in such combat during that turn; see (G8.32).
(D21.344) LEGENDARY CAPTAIN RULE: If there is a legendary captain (G22.2) on the doomed ship, he may attempt to initiate boarding party combat on an enemy ship. This is an exception to (D21.342) and (D21.343) and a condition of (D21.33). This procedure is used after the failure of (G22.223).
(D21.3441) This provision can only be used if there is no friendly unit (size class 4 or larger) or habitable planet within transporter range and no escape section is available on the ship with the captain.
(D21.3442) One enemy ship (size class 3 or smaller) within transporter range (selected by die roll) must drop a shield facing the doomed ship. If there is an enemy ship within transporter range with an ongoing boarding party action, that ship is selected instead of a randomly chosen one.
(D21.3443) The legendary captain [who acts as a legendary marine major (G22.5) without any delay to change roles] and the maximum number of crew units (as determined by transporter capacity) are transported to that enemy ship and immediately begin a boarding party action to capture that ship.
(D21.3444) No more than half of the crew units brought with the captain are boarding parties (two per unit), but all crew units with him will fight as militia (D15.83) because of his bold leadership (which is ably demonstrated by his retaining the initiative after having his ship blown out from under him).
(D21.3445) Any other legendary officers on the ship will be formed into one crew unit for purposes of transportation accounting.
(D21.3446) The marine major can use this rule, but cannot use (G22.223). Legendary ground forces officers cannot use this rule or (G22.223).

(D21.35) PRIORITY: Crew units must be given a priority over boarding parties when being transported; a player evacuating a ship cannot transport any boarding parties until and unless all non-boarding party crew units have been transported. [Any militia (D15.83) revert to crew status when transported.]
A legendary captain using (D21.344) can set his own priorities on who escapes with him, all of whom fight as militia.
Cargo can be saved before the crew in some cases; see (G25.212).

(D21.36) ESCAPE: Crew units leaving by transporter are not considered to be "escaping" under the terms of (D21.4).

(D21.37) ENEMY SHIP: While there is no way to force a player to do so, if an enemy ship with its facing shield down is the only available place to send evacuating crew units, the crew units could be sent there. Survival, even temporarily or as a prisoner, is likely to be the prime directive of the personnel operating the transporters. Even the Klingons and Romulans take prisoners (at least sometimes) because of their intelligence and propaganda value. Note that the provisions of (D21.332) and this rule could be used for some rather ridiculous tactics (a ship about to be destroyed could drop shields to accept the crew of a destroyed enemy ship, thereby forcing the enemy to allow it to escape).

(D21.38) ESCAPING UNITS: Crew units cannot be transported to units which are escaping from the same CD event. Resolve all evacuations before resolving escapes.

(D21.4) ESCAPE: WHICH UNITS CAN ESCAPE

Certain small units attached to, docked to, or a part of the doomed ship may "escape" by separating from the doomed ship and moving away. The term "escape" within these rules refers to the procedure under (D21.5).

(D21.41) SHUTTLES: All shuttlecraft (including fighters and enemy units) may attempt to escape. Captured shuttles, but not captured fighters, may escape. This includes sublight shuttles
(D21.411) The restrictions of (J1.50) as modified here remain in force, but the allowable launch rate is increased (until the ship is destroyed). Launch tubes (J1.54) (as on Hydran ships) may each launch one fighter per impulse; each shuttle bay may launch two shuttles per impulse. Certain oversized shuttle bays [e.g., Fed CVA (J1.57)] can launch double their normal rates each impulse.
(D21.412) All manned shuttles on balconies (J1.53) can escape.
(D21.413) Shuttles which are being repaired or rearmed can escape, but the repairs or rearming is not completed. Suicide shuttles, wild weasels, and scatter-packs (and shuttles being armed for those missions) cannot escape. Unmanned shuttles cannot escape.
(D21.414) All shuttles may carry their maximum passenger load (G9.14). The units able to carry the largest numbers of crew units will have precedence in the escape procedure, e.g., all admin shuttles must escape before any fighters can escape.
(D21.415) If destruction occurs later under ID/CD, these launch rates remain in effect until destruction.
(D21.416) If using (D16.0), the player that controls (D16.82) a given shuttle bay is the only player able to use it. If neither controls it, each player with shuttles in the bay can use an equal share of the capacity.

(D21.42) PFs: All PFs held on mech-links or docked externally may attempt to escape.
(D21.421) PFs in internal bays may not attempt to escape; those in collapsible repair bays may attempt to escape (although doing so will ruin the collapsible bay and eliminate its use for repairs).
(D21.422) All PFs carry their own crew plus up to two crew units from the ship/base. See (D21.226).

(D21.43) SEPARATION: Ships capable of separation may detach the indicated sections (Klingon booms, Federation saucers, Neo-Tholian command modules) and order them to attempt escape if eligible under (G12.0). Note that the rear sections of these ships cannot escape separately. Separating sections take no damage from the causal event, although any previous damage remains, and they might be damaged or destroyed by the explosion of the destroyed section if they do not get more than one hex away (D21.5).
(D21.431) The separating section is assumed to have the proportion of crew units assigned to it by the Master Ship Chart, plus one-half of the crew units originally assigned to the remaining section. Note that after accounting for casualties there may be more than one means of escape available to some crew units; the owner can select the one each crew unit will use. See (D21.226).
(D21.432) Other units (shuttles, PFs) docked to or in the separating section may attempt to escape independently under their own rules. Those other units from the sections left behind will, of course, do so.
(D21.433) Note that the ship must have a rear hull (not just engines) to leave behind. Ships of the Federation FF, DD, DW, tug, and NCL classes (and variants thereof, i.e., those with no specific rear hull) cannot separate an escapable section under this rule.
(D21.434) Tugs cannot escape by leaving behind a pod or cargo pack. There is a partial exception in that the saucer (without warp engines or any pods) of a Federation tug or LTT can escape if it leaves behind a non-cargo pod(s), or the pod(s) can escape under (D21.44), but both cannot escape (even on different impulses). Of course, the boom of a Klingon tug or LTT can escape (as any other Klingon boom), leaving behind the rear hull (and any of pods).

(D21.44) POD: A pod (attached to a tug) that is capable of independent movement may attempt to escape. It is assumed to have its own crew plus up to ten crew units from the tug.

(D21.45) SATELLITE SHIPS in the hangar of an Andromedan ship may attempt to escape (but only if powered transporters or charged displacement devices are available (G19.31), and they must be launched within their normal rules except for the Sequence of Play). See (D21.72). A satellite ship can use its own DisDev to self-launch during an escape (G19.423); this is an exception to (G18.513) and (G18.54).

Rule (D21.32) does not apply to satellite ships.

Each satellite ship is assumed to have its own crew units plus up to five crew units from the mother ship. See (D21.226).

(D21.46) EXTERNAL DOCKING: Ships docked (C13.9) to a doomed ship may separate and attempt to escape. (This would also apply to a ship which is docked to a ship which is docked to a ship which is docked to a ship which is docked to a doomed ship, etc.)
(D21.461) A maximum of ten crew units may transfer to the escaping ship before separation. If that ship is an enemy vessel, any such crew units will be treated as if they had transported aboard under (D21.34).
(D21.462) Ships (or PFs) docked externally to a doomed base or FRD may separate and attempt to escape without restriction. See (D21.226).
(D21.463) The escaping ship's fire control will remain disrupted (D6.68) for four impulses after escaping (C13.762).

(D21.47) INTERNAL DOCKING: Ships docked inside an FRD may undock and attempt to escape only if they are the first or last in the docking order (i.e., are nearest the exits) (C13.53). If ships are docked inside a module of a starbase, only one ship per module can attempt to escape (C13.663). A maximum of twenty crew units can transfer from the base or FRD (or other ships docked inside) to each departing ship before undocking takes place. See (D21.226). Shuttles are covered under (D21.41) and are independent of any undocking by ships from the same module.

(D21.5) ESCAPE PROCEDURE

(D21.50) DIE ROLL: Each unit attempting to escape under (D21.4), rolls one die and determines how far to move from the chart below:

0 or less	Does not move (possible only with modifiers)
1-3	Moves one hex
4-6	Moves two hexes
7+	Moves three hexes (possible only with modifiers)

The escaping unit may be subject to the explosion of the unit declaring CD. Andromedan units escaping via (D21.45) do not use this procedure or (D21.6), but use the transporter or DisDev rules as appropriate.

(D21.51) FACING: The escaping unit is placed facing away from the doomed unit (i.e., with the doomed unit in its RA arc).

(D21.52) SPEED: For purposes of subsequent movement, the escaping unit may be designated as moving at any speed up to ten (fifteen for PFs, X-ships), within the acceleration limits of the unit itself.

(D21.53) EXPLOSION: It is possible that a ship which is, itself, escaping from a CD event may be caught in and destroyed by the explosion and may then declare CD to be in effect itself. A chain reaction is possible as a ship escaping from a doomed base might separate its boom which, if then also subjected to CD, might be able to use transporters to evacuate its crew.

(D21.54) WARP-POWERED SECTIONS: Ships with warp-powered sections have an advantage in escape.
(D21.541) Sections with full-sized warp engines (e.g., Klingon C8, C9, B10 booms, Federation DN, CVA saucers) add three to the die roll in (D21.50) so long as half the original warp boxes are undamaged. Those with less than half of the original warp boxes undamaged are treated as having warp packs (D21.543).
(D21.542) Sections with small warp engines (which are full-sized engines but smaller than the other warp engines on the ship) add two to the die roll so long as half the original warp boxes are undamaged. Those with less than half of the original warp boxes undamaged are treated as having warp packs (D21.543). At the present time, the only ships of this configuration in the game are Neo-Tholian Command Modules *(Captain's Module C2),* but more ships of this configuration are in preparation for an upcoming product.
(D21.543) Sections with small warp packs (e.g., Klingon J ships, Klingon C7s, many X-ships) add one to the die roll in (D21.50) so long as there is one functioning warp box.

(D21.55) PFs: Due to their high acceleration, PFs add three to the die roll in (D21.50).

(D21.56) OTHER MODIFIERS to the die roll in (D21.50) include:

Legendary navigator†¥	+2
Outstanding crew†	+2
Fighter	+1
Fighter with booster packs	+2
Poor crew†	–2
Ace PF or pilot	+1
Green PF or pilot	–1
Crippled non-fighter shuttle	–1
Crippled fighter	–2
Crippled PF	–2

†This applies only to separating ships or sections, not shuttles or PFs.

¥ A legendary captain can assume the status of a legendary navigator without any delay for this purpose, but only if currently in a control box. He cannot simultaneously perform any other function.

(D21.6) RESTRICTIONS ON ESCAPING UNITS

The actual "escape" conducted under (D21.5) involves movement over several impulses, but is compressed into a single instant for game purposes. Thus, the act of placing a counter several hexes from the ship is, in fact, the movement (known as "escape movement") of that counter, and a legal movement path must be traced from the hex occupied by the ship to the new location. Fighters, PFs, booms, and other escaping objects are not exempt from the normal rules concerning movement.

(D21.61) ILLEGAL HEXES: The unit cannot enter illegal hexes, such as black holes. If the unit moves closer to a black hole during escape movement, it cannot later move farther from the black hole during that same escape movement.

Note that a sublight (or slow trans-light) ship cannot escape from a black hole, but could survive long enough to be towed to safety or declare ID/CD in its own right.

(D21.62) PLANET: The unit cannot enter a planet hex unless it lands in that hex. The landing on the surface occurs immediately without going through the intermediate steps of (P2.41). If the unit is capable only of a crash landing (P2.431), roll for that immediately. Landing is the only alternative. Low flight (P2.423) is not an acceptable alternative.

(D21.63) ZONES: If the unit passes through mine, ESG, asteroid (or other hazardous) hexes, it takes damage at a movement speed of 31 (to reflect the inability to control the unit).
(D21.631) If several units are escaping simultaneously, resolve damage in the order of the unit moving the farthest.
(D21.632) Webs have their normal effects on escaping units and may force them to stop or spend part of their escape movement penetrating the web. Escaping units are treated as if going their maximum speed (in their current condition) for purposes of moving through and damage (G10.59) from entering a web hex.

(D21.64) DOCKING: The unit cannot dock (C13.0) with any other unit as a part of the escape movement.

(D21.65) ENEMY SHIP: The escaping unit cannot enter a hex containing or adjacent to an enemy ship or base if there is an alternative which would not cause damage to the unit.

(D21.66) WEAPONS: Units escaping by these rules cannot fire any weapons within 1/4 turn (eight impulses) of the impulse on which they escape. They cannot launch seeking weapons within 1/2 turn (sixteen impulses) of the impulse on which they escape. They cannot fire direct-fire weapons at ships (size class 4 or above) or use aegis fire control within one full turn (32 impulses) of the impulse on which they escape. See (G12.5) if the remaining section survives.

(D21.67) TOWING: No unit can tow (via tractor beam) another unit during escape movement. Units attached or docked to other units are not considered as "towed" for this purpose. See (C13.921), (D21.46), and (D21.47).

(D21.7) ANDROMEDANS: SPECIAL CONDITIONS

(D21.71) PANELS: Andromedan ships in CD status cannot drop PA panels for the purposes of having their crew rescued by the transporters of other ships, but do not need to. Other Andromedan ships would have to drop their PA panels to rescue crews from a doomed ship. See (D10.52). Andromedan crewmen cannot be transported by enemy vessels and cannot transport to them except by (D21.33).

(D21.72) SATELLITE SHIPS can escape; see (D21.45). This escape is via transporter or displacement device. The rules in (D21.5) and (D21.6) do not apply except for (D21.66), which *does* apply.

(D22.0) ENERGY BALANCE DUE TO DAMAGE *(Optional)*

When a ship receives damage, its power output may be reduced. This may require the player to modify his energy allocation plans to account for the power that is no longer there to use.

This rule provides greater realism (at a considerable cost in complexity) as ships which have been heavily damaged cannot continue (as they would without this rule) to move at high speed and fire weapons for the remainder of the turn.

Using this rule will considerably affect the play of the game. Hitting the enemy before he can hit you will become more important, as any power loss will reduce his firepower. Hitting him early in the turn, when there is little expended power to absorb losses, will become critical. Additionally, ships trying to escape from the scenario will be slowed down, and more of them will be caught and destroyed. Players are cautioned to experiment with this rule in several scenarios before adding it to a campaign.

NOTE 1: This section is a revised and enhanced version of the system used in (C1.321) and in (C2.3) of the previous edition.

NOTE 2: PFs (including interceptors) and shuttles (including fighters) do not use this rule.

(D22.1) DEFINITIONS

There are three types of power expenditures: incremental, instantaneous, and continuous. Power is treated as either expended, available, or operating.

(D22.11) INCREMENTAL POWER expenditures include power which is expended in small units throughout the turn. The most common and virtually only form of incremental power expenditure is for movement. In the event of a power shortage, energy spent for movement performed earlier in the turn is considered "expended" while energy remaining on hand for continued movement is considered "available."

Note that, if the ship had plotted a speed reduction in later impulses, it will have less "available" movement power to give up than a ship which had planned to maintain a continuous speed or plotted acceleration.

NOTE: A pulsing PPD would be considered "incremental" power if a power shortage had to be resolved while it was continuing to pulse. A PPD requires two points of power per pulse. Pulses which carry over into a subsequent turn are ignored; they are not counted as any type of power.

(D22.12) INSTANTANEOUS POWER expenditures are those which occur at a specific point, their effect being resolved in a single impulse. Examples would be operating a transporter, making an HET, or firing a phaser. In the event of a power shortage, energy spent previously is considered "expended" while energy remaining on hand for future use is considered "available."

Note that allocations under the "contingent reserve" are treated the same way. If a player had allocated three units of power for an HET (planning to supply the remaining two from reserves) but had not conducted it, the three points are "available." If the HET had been made, those three points (and the two from reserve) are treated as "expended."

(D22.13) CONTINUOUS POWER expenditures are those which take place throughout the turn or over a period of turns. They include the operation of shields, life support, PA panels, fire control, holding loaded weapons, wild weasels being charged, suicide shuttles being held or charged, and operating tractor beams. In the event of a power shortage, energy being used for continuous expenditures is considered to be "operating." (If additional "operating" systems are added in future rules expansions, these will be noted as such.)
(D22.131) ESGs (G23.0) and SFGs (G16.0) are treated as "operating" while they are active. Energy from ESG capacitors is treated like that in phaser capacitors (D22.15).

Energy used for ESGs which have been dropped is regarded as follows: If on the same turn that the ESG was activated, it is regarded as "expended." If on a subsequent turn, it is ignored. Web Casters, Web Snares, Shield Cracker/Web Breaker, Particle Cannons are treated as ESGs.

EXAMPLE: A ship has two ESGs and activates both on Impulse #10 of Turn #3; they become active on Impulse #14. One is knocked down by drones on Impulse #20; the other is dropped on Impulse #7 of the next turn. From Impulses #1-#9, this is treated as capacitor energy. From Impulse #10 through #20, it is all "operating" energy. From Impulse #21 through #32, the first ESG is "expended" while the second is "operating." On the next turn, the ESG energy used to operate ESG #2 is ignored.

(D22.132) Energy allocated for active (including low powered) fire control is considered as "available" power if the fire control system is not currently in active mode.

(D22.133) Energy allocated to continuous functions which have been terminated (e.g., energy to hold weapons which have been fired, energy for tractor links no longer functional, etc.) is considered "expended" power.

(D22.14) SHORTAGES: Whenever damage is scored on power-producing systems, the player must determine if this damage has caused a power shortage.

Determining if a power shortage exists and resolving it is performed in a specific sequence. First, determine if a warp power shortage exists and resolve that shortage (D22.2). After that shortage has been resolved (which may have required a re-balancing of the ship's power), determine if the ship has a remaining general power shortage (D22.3) and resolve that shortage (D22.4) (which may require another re-balancing of the ship's power).

The key to this procedure is that power already expended is presumed to have come (to the maximum extent possible) from those power-producing systems which were destroyed. This procedure is not totally realistic, but is less burdensome than a more realistic accounting procedure.

(D22.15) PHASER CAPACITORS: Careful attention must be paid to power held in phaser capacitors that was added to that system on a previous turn. Power expended by phasers is assumed to have come first from the capacitors. Power cannot be removed from the capacitors for use in other systems or to balance energy for this procedure. However, power "allocated" to phasers is not presumed to have reached the capacitors until it is used or until the end of the turn. This allocated power is "available" and CAN be canceled by the player to balance power under this procedure. Note that even if other power is reduced, the capacitors (holding power from previous turns) can still be used to fire any phasers (within the other rules).

This same procedure is used for ESG capacitors; see (D22.13).

(D22.2) WARP POWER SHORTAGES

It is first necessary to verify the energy balance for warp-specific power, that is, energy from warp engines or AWRs and energy required for warp purposes (photon torpedoes, suicide shuttles, displacement devices, other warp-requiring systems, and movement). This step (D22.2) deals only with warp power; some systems that do not require warp power may be using warp power, but that will be determined in (D22.3).

(D22.21) STEP A: Determine the total amount of warp power remaining (undestroyed warp engine boxes).

If the ship is an Orion, the warp power remaining on a doubled engine will be twice the number of its remaining warp engine boxes.

(D22.22) STEP B: Determine the total amount of warp power available (allocated for as yet unfulfilled movement plans, including HETs and EM, and for other warp-specific uses, such as photon torpedoes).

(D22.23) STEP C: Determine the total amount of warp power expended.

(D22.24) STEP D: Determine the total number of warp power units lost due to damage received during the current turn.

(D22.25) STEP E: Subtract D from C. If the result is zero or a negative number, ignore it. If the result is a positive number, add it to B.

(D22.26) STEP F: If B (as adjusted by step E) is less than or equal to A, there is no warp power shortage. Proceed to step H.

(D22.27) STEP G: If B is greater than A, warp power use must be reduced by slowing down or canceling other available warp power until use is equal to or less than the warp power remaining. This could be done by canceling planned but as yet unmade accelerations, unused HETs, EM, by stopping photon arming or other non-movement warp uses, or by slowing down the ship (D22.52). Braking energy may be canceled only if all movement after the change of direction has already been canceled.

(D22.28) STEP H: After resolving any warp power shortage or determining that there is none, a final check must be made of movement-capable power. Specifically, warp engine power and impulse power must be checked (within their specific limits) against the power required for movement and movement-related functions, such as Erratic Maneuvering. This may require an additional reduction.

(D22.29) COMPLETION: After completing these steps, proceed to (D22.3).

NOTE: If the unit has no warp power and has no systems that require it, this step can be skipped. A player with such a unit could proceed with this step if he wished, but there will be no result as a zero warp supply and zero warp requirement produce zero warp shortage regardless of any other damage.

(D22.3) GENERAL POWER SHORTAGES

(D22.31) CURRENT OUTPUT: First determine the total current power output (undestroyed power system boxes, including batteries discharged on the current turn) of all power-producing systems (including warp power and including previously unallocated power). This is the "remaining" amount. Note that it is impossible (outside of this rule) to bring unallocated power on line.

If the ship is an Orion and is doubling its engines, this extra power is included in calculating the output. The ship cannot double its engines in mid-turn.

(D22.32) ENERGY REQUIRED: Secondly, determine the total amount of energy required for "operating" and "available" expenditures (including warp power expenditures). This is the "required" amount.

(D22.33) SHORTAGE: If the remaining amount is less than the required amount, a power shortage exists and must be resolved by (D22.4). If the required amount is less than or equal to the remaining amount, no general power shortage exists.

EXAMPLE: The player has previously allocated all existing power. During the turn thus far, he has used four units of power to fire phasers and operate transporters. (Power has also been expended for movement.) Two internal damage points destroy APRs. It is assumed that the APRs were supplying the power which has already been expended by the phasers, so no power shortage exists.

(D22.4) RESOLUTION OF GENERAL POWER SHORTAGES

(D22.41) PROCEDURE: Power shortages are resolved by canceling allocations or curtailing operations until the sum of the available and operating power is equal to or less than the remaining power. Note that warp power shortages are resolved by (D22.2) before determining if a general power shortage exists; this section deals only with general power shortages. A player may slow down the ship, in effect transferring warp power to non-movement uses.

(D22.42) UNALLOCATED POWER: Any existing but unallocated power sources have already been brought on line by the procedures in (D22.3) above. Note that unallocated power is simply left over on the Energy Allocation Form. Reserve power and unallocated power are two different things.

(D22.43) PRIORITY: The player must reduce his power allocations and operations by the following procedure. Each step is used in the exact order specified.
(D22.431) STEP 1: If eligible, put the ship on emergency life support.
(D22.432) STEP 2: The player may voluntarily use any reserve power.
(D22.433) STEP 3: Cancel any planned but unmade accelerations. The player can also voluntarily cancel available warp/movement energy (HETs, EM). If this is not sufficient, reduce the speed of the ship by 50% [including the reductions made under (D22.2H)]. (Round a fraction of 1/2 down when calculating how much the speed can be reduced. A speed of thirteen would be reduced by six.) See (D22.52).

This is NOT a voluntary step. If damage causes a power shortage, the ship WILL slow down, unless the power shortage was resolved by Step #1 and/or Step #2 (or earlier portions of Step #3). (Exception: see disengagement below.)

A lesser speed/acceleration reduction must be used if that reduction alone will be adequate to resolve the imbalance.

A speed reduction below the ship's new maximum speed is not required if the ship is attempting to disengage by acceleration (C7.1). A ship is considered to be making such an attempt if: the owning player says so, and the ship made the maximum possible acceleration on the current turn, and the ship proceeds in subsequent turns to do so in the most expeditious manner possible. (A reduction below max speed under this step cancels the ability to disengage by acceleration.)

Braking energy may be canceled only if all movement after the change in direction has already been canceled.
(D22.434) STEP 4: Voluntarily reduce any available or operating energy (including all forms of movement and/or any energy going to shields including damage control and reinforcement) until the required amount is equal to or less than the remaining amount.
(D22.435) STEP 5: If the ship is reduced to only life support (or emergency life support) and shields (including reinforcement, or PA panels), no further reduction is required (or, indeed, possible) and play proceeds.

(D22.5) ADDITIONAL POWER RESOLUTION RULES AND EXAMPLES

(D22.51) GENERAL RULE: The cancellation of power expenditures is done within the normal rules for each system except as may be noted. Releasing a tractor beam to save power, for example, is done by the same procedure as releasing it for a tactical reason or because the object being held was destroyed.

(D22.52) SPEED CHANGES: Reductions in speed are made by (C12.0) but with additional considerations.
(D22.521) Speed changes required by this procedure are not limited to 50% of the current speed (C12.32).
(D22.522) Speed changes required by this procedure are made immediately and without the limitation of (C12.31); however, subsequent speed changes not required by this procedure are subject to that limit. The time period for such change is counted from the most recent change, regardless of whether it was involuntary or voluntary.

(D22.53) ERRATIC MANEUVERS: The cost of Erratic Maneuvering is given in (C10.1). This cost is considered to be "operating" regardless of how much of the turn has elapsed or whether EM has actually started, but is considered "expended" if EM was used during the turn and later (before the damage) was stopped.

NOTE: If the cancellation of EM is required or used to balance the energy equation, it must be canceled immediately and entirely at the end of the current Phase, and without the normal warning period. A player cannot promise to halt EM at some later point to satisfy the requirement.

(D22.54) MULTI-TURN ARMING WEAPONS are treated as follows: the current turn of arming energy is "available" power which can be canceled. If canceled, energy allocated on prior turns is lost and does not count as reclaimed or canceled expenditures for purposes of energy balance. Note that type-F plasma torpedoes, with their stasis box launchers, are not treated any differently (except, of course, that they don't need holding power). Wild weasels and suicide shuttles are also treated under this rule.

(D22.55) HOLDING ENERGY for heavy weapons (or WWs or suicide shuttles) is "operating;" if canceled, the weapon being held must be ejected (*not* fired or launched) immediately. (SS and WW shuttles are simply disarmed, they are not ejected from the ship.) Note that a plasma torpedo (for which holding energy was canceled) could *not* be held for the 1/4-turn period allowed under the "destroyed launcher" rule (FP1.7). If a weapon is fired, its holding energy is treated as "expended" for the remainder of the turn on which that holding energy was paid.

(D22.56) TRACTOR BEAM EXAMPLE: A ship has three tractor beams and has allocated five points of power to the tractor function.

One tractor beam with one point of power was used earlier in the turn to hold a drone which was destroyed by a phaser. That point of power is "expended" for these purposes.

The second tractor beam with three points of power is holding an enemy fighter at a range of three hexes. This power is considered "operating." If necessary, it can be canceled, although the fighter will be released and may become a tactical problem. All three points must be canceled at the same time because of the nature of tractor beams.

The third tractor beam with the last point of tractor power has not been used; the player has been holding it for use on an approaching drone. This point of power is "available."

(D22.57) PINWHEEL: This procedure could cause the involuntary separation of a Tholian Pinwheel in addition to the cause listed in (C14.32). Involuntary separation is considered a last resort after all other legal methods of reducing power expenditures are used.

(D22.58) EXCESS POWER: The purpose of the energy balance equations given above is to resolve an existing shortage, not to create extra power or allow otherwise illegal decelerations.

In no case can voluntary reductions result in excess power becoming available, except in the case of canceling a large allocation (such as an unused HET) that more than resolves the shortage. In that case, the excess power is treated as "unallocated" power (D22.42).

Under no circumstances can speed be reduced more than is necessary to resolve the shortage.

(D22.59) ELECTRONIC WARFARE: See (G24.2116).

(D22.6) MAXIMUM SPEED LIMITATIONS

(D22.61) STANDARD RULE: Note that a ship forced to rebalance its energy by these rules may temporarily (until the end of the turn) violate (C12.38), which prohibits a ship from exceeding its maximum speed, and (C2.18), which prohibits a ship from spending more warp power than it actually has.

EXAMPLE: A D7B moving at a speed of 31 which loses five warp boxes on Impulse #19 would not be required by the above rules to adjust its speed, as the eighteen "expended" warp points more than cover the five lost points. Rules (C12.38) and (C2.18), however, would limit the ship to a maximum speed of 26. Note that any speed of 26 or more (assuming that the ship had been moving at its previous maximum speed before it was damaged) would qualify it for disengagement.

This temporary violation is allowed (i.e., legal) because the cited rules are based on a normal pre-turn energy allocation plot. The engines, in a state of dynamic flux caused by the sudden loss of power, are not in a stable condition, and the warp field has not balanced at the new lower level. Players who insist on the absolute in technical realism can use the following rule.

(D22.62) OPTIONAL RULE: Rule (C12.38) cannot be violated. The ship must immediately slow to the maximum speed allowed by those rules. However, the expended power is still accounted for; the remaining warp engines need only provide power for the remaining hexes of movement at the new speed.

This procedure will, however, almost inevitably "create" a small amount of power. Energy cannot be created, however, so any "gain" in energy is unallocated. Later, the ship could slow down even more to transfer movement energy to other uses.

EXAMPLE: In the above example, the ship would be required to slow to a speed of 26. At this speed, the ship has a further eleven hexes of movement, requiring eleven points of power (ten from warp, one from impulse). (Use the impulse chart to determine how much

movement remains.) The ship has already expended eighteen points of power, five of which were produced by the now destroyed warp boxes and thirteen of which were produced by warp engine boxes still functioning. (The player could declare that in fact one of the expended movement points came from the impulse engines). Only ten of the remaining twelve warp engine boxes are required (plus one impulse, or another warp box if impulse power was assumed to be used earlier), but as the other two were dedicated to movement, they are now considered expended as a reduction to the max speed cannot produce extra power.

(D22.621) MODIFIED (D22.2) PROCEDURE

A. Determine the total amount of warp power remaining (undestroyed warp engine boxes).

B. Determine the total amount of warp power available (allocated for as yet unfulfilled movement plans, including HETs and EM, and for other warp-specific uses, such as photon torpedoes).

Note that the maximum speed has been reduced by the requirement above (D22.62).

C. Determine the total amount of warp power expended. *Note that this will include some power "lost" in the speed reduction.*

The remaining steps of (D22.2) are unaffected.

NOTE: The overall (D22.0) rule will reduce the speed of ships damaged in combat, causing more of them to be caught and destroyed before they can escape. The effect of (D22.62) will be a further reduction in speed with even fewer crippled ships surviving the battle.

(D23.0) SHOCK EFFECTS *(Commander's Level)*

Some ships are fitted with weapons more powerful than their hulls can stand to fire repeatedly. These ships are subject to shock effects, which can ultimately cause the breakdown of the ship.

Shock effects are the small amounts of stress and strain which, while they do no damage in themselves in terms of (D4.0), can accumulate until they cause a shock breakdown (D23.3).

A shock breakdown happens when the ship suffers a collapse as a result of excessive shock effects.

(D23.1) SHIPS SUBJECT TO SHOCK

Certain types of ships are subject to shock effects.

Note that Annex #7S, which lists shock ratings, provides a quick list of all ships subject to shock effects. Most ships subject to shock have this noted on their SSD, in their ship description, and on Annex #3 Master Ship Chart.

(D23.11) MAULERS: All ships armed with maulers are subject to shock. Most of these ships are noted specifically as being subject to shock in their ship descriptions.

(D23.111) Mauler ships suffer shock effects when they fire their maulers; see (D23.24) below for details.

(D23.112) Note that only one die roll is made per firing, regardless of whether the ship fired one or more maulers. (Some ships have two mauler symbols on their SSD; these are treated as a single weapon. See the D6M or SPF.)

(D23.12) OVER GUNNED SHIPS: Certain ships have weapons too powerful for their hulls. These are often ships designed for base assaults or ships which are "enhanced firepower" variants of standard ships. A few examples include:

Kzinti FH heavy frigate (R5.41).

Federation BCJ *New Jersey*-class heavy battlecruiser (R2.64).

Romulan SparrowHawk-J bombardment cruiser (R4.51).

Romulan KillerHawk (R4.37).

Over gunned ships suffer shock effects when they fire certain weapons or certain combinations of weapons; these are fully described in the ship description for each ship. Repairing a disruptor as a shorter-ranged version will not reduce the shock effects caused by that weapon. Ships of this category are listed in Annex #7S.

(D23.13) NOTE ON LDR AND WYN: Many ships of the Lyran Democratic Republic and WYN Star Cluster are over gunned and subject to various limitations, but this is not covered by these (D23.0) rules because shock is only one of several factors affecting their operations (crew accommodations, lack of self-maintenance, space keeping abilities, etc.). Those ships are, generally, prohibited from leaving their home territory (i.e., from operating too far from their shipyards), a restriction which is caused by the shock effects of their excessive armament. (Some of the ships operated by those empires are not limited in their deployment, e.g., WYN-Orions.) Those to which it does apply are listed as "Limited Deployment" ships. Future projects may include ships which are subject to (D23.0) Shock (e.g., an LDR mauler), and these will be noted.

(D23.2) PROCEDURE FOR DETERMINING SHOCK BREAKDOWN

(D23.21) SHOCK RATINGS: All ships which are subject to shock have a shock rating listed on Annex #7S. This is the number of shock effect points (SEPs) that they can take before there is a possibility of suffering from shock breakdown.

Shock effect points are a means of tracking the cumulative effect of shock damage.

Note that the rating is assigned and accounted for the entire ship, not for each specific weapon. For example, the Romulan SpH-J rolls a die when firing each of the wing plasma-S torpedoes, but these contribute to the same total, and a shock breakdown affects the ship as a whole (*and* the weapon in particular).

(D23.22) PROCEDURE: Whenever a ship which is subject to shock fires (or launches) the weapons noted in its description (including maulers) subject to shock effects, the ship must roll one die (separately from the die roll, if any, to see if the weapon hit its target) to determine the number of SEPs received. This is done in the Shock Step of either the Seeking Weapons Stage (6B6) (if it is a seeking weapon) or the Direct-Fire Consequences Stage (6D5) (if it is a direct-fire weapon) of the Sequence of Play. (Some ships are required to roll two dice.) Plasma torpedoes and plasma bolts cause shock equally (if the ship and the launcher in question is subject to shock). Some ships also receive shock points automatically in some cases, e.g., (R2.64).

(D23.221) The result of the shock die roll is added to a running total for that ship. When the running total exceeds the shock rating, the ship is subject to a possible shock breakdown (D23.3) on a future firing of the relevant weapon(s). The ship will continue to roll for SEPs after reaching this point. The die rolls and the running total are known to all players unless using (D23.226).

(D23.222) On all firings subsequent to the point at which the shock effect rating is exceeded, if the (unmodified) die roll is five or more, the ship suffers a shock breakdown *and* the (modified) die roll is added to the running total. It is theoretically possible for a ship to suffer several breakdowns (from various causes) during a scenario. See (D23.5) for die roll modifiers.

(D23.223) On all firings subsequent to the point at which the shock effect rating is exceeded, if the die roll is 1-4, add it to the running total. At the instant that the running total exceeds double the shock breakdown rating, the ship automatically suffers a shock breakdown.

(D23.224) In those cases where two dice are rolled, e.g., (R4.51), the procedure applies to each die roll individually. If two die rolls both call for a breakdown, the ship breaks down only once.

(D23.225) Plasma torpedoes require a special treatment because of the possibility that any given torpedo is a pseudo-plasma torpedo, which would not cause shock. On a written record, each time a plasma torpedo which qualifies for generating SEPs is launched, an SEP die roll is recorded as being associated with that specific torpedo. If a PPT is launched in the place of such a torpedo, the die is rolled and recorded as if a real torpedo of the same type had been launched. If a PPT is exposed as such (because it struck a target and did no damage, or because the owner voluntarily exposed the written records to prove it is a PPT), the die roll associated with the PPT is deleted from the running total. The owner of the ship could voluntarily expose his records at any point to adjust the running total (and is required to do so if the ship will suffer a breakdown unless they are revealed). The total is adjusted immediately if the PPT is revealed as such by other means.

(D23.226) Optional Alternative: Have a non-playing judge make and keep the records of the shock die rolls, advising each player of the present SEP level of each ship. As another alternative, have the non-playing judge advise players only when their ships actually break down.

(D23.23) FREQUENCY: A die roll for shock effect points is made whenever the designated weapon is fired, regardless of how often it is fired. For example, a mauler could fire several times during a turn and would roll a die for each. A SparrowHawk-J must roll a die for each plasma-S it fires from a non-center mount, which could require two die rolls in the same impulse if both the B and C torpedoes are fired together.

(D23.24) MAULERS are capable of firing relatively small amounts of energy, and when fired at lower energy levels, the shock effect is minimized.
(D23.241) Whenever the die roll in (D23.22) exceeds the amount of energy fired through the mauler, add the energy expended, not the die roll, to the running total.
(D23.242) If, on any given firing, the total amount of power fired through the mauler during the previous 31 impulses (plus the power of the current shot) is less than 1/3 of the original power capacity of the batteries, and if all of this power has come from the batteries and/or PA panels (none from the engines, or reactors), that firing is not subject to a shock die roll.

(D23.25) DISCHARGED WEAPONS: Any weapons which are discharged by (E1.24) or (FP1.14) do not produce shock effects, either in the form of die rolls or mandatory points that may be required for certain weapons on certain ships.

(D23.3) EFFECT OF SHOCK BREAKDOWN

Ships which suffer a shock breakdown suffer the following penalties:

(D23.31) WEAPONS designated as causing shock cannot be fired until the number of shock effect points in the running total is reduced (presumably by repairs) below the shock rating. This includes weapons causing any type of shock, should a given ship have more than one means of accumulating SEPs.

(D23.32) BREAKDOWN: The ship suffers an immediate breakdown [as per (C6.54)] in the Shock Step of the same impulse (there is such a step in both the seeking and the DF weapon procedures); it stops moving and suffers the damage specified, but cannot tumble. The ship also loses its (C6.52) breakdown bonus (without any effect on the situation) if this has not previously been used. The bonus cannot be used to mitigate shock effects; its use for some other purpose does not increase the chance of a shock breakdown.

(D23.4) REPAIR OF SHOCK EFFECTS

Shock effects can be repaired by various means.

(D23.41) SELF-REPAIR DURING A SCENARIO: A ship which has accumulated shock effect points can remove these points from its running total by various means.
(D23.411) Continuous damage repair (D9.7) can repair shock effect points. Each SEP is repaired by four repair points. The first (but no subsequent) shock effect point repaired counts as one "system repaired" under (D9.76). See (D23.44) for combining types of repair.
NOTE: Repairing Shields in Combat (D9.2) cannot repair or remove SEPs.
(D23.412) Emergency Damage Repair (D14.0) can be used to remove SEPs from the running total. For each successful die roll in (D14.13), three is subtracted from the running total of SEPs. See (D23.44) for combining types of repair.

(D23.42) BASE REPAIR DURING A SCENARIO: A ship can be repaired by repair systems (G17.0) on a base, FRD, or repair ship under the standard rules, with each SEP costing four repair points. These repairs cannot exceed the original shock rating during an entire scenario. See (D23.44) for combining types of repair.

(D23.43) REPAIR BETWEEN SCENARIOS: Some campaigns will specify how SEPs may be removed between scenarios. If this is not specified, one of the rules below will apply.
(D23.431) Repairs under (D9.4) can remove a number of SEPs equal to 50% of the shock rating; round fractions down when calculating the number of points that can be removed.
(D23.432) The "overhaul" in (U1.4) fully removes all SEPs.
(D23.433) In the case of successive scenarios without time to stop at a base, the ship uses its normal repair capabilities as provided in the rules, including (G17.132).

(D23.44) REPAIR LIMIT: Repairs under (D23.411), (D23.412), and (D23.42) combined cannot exceed the limits of (D23.42), even if the ship suffers further shock die rolls after it is repaired.

(D23.5) ADJUSTMENTS TO SHOCK RULES

There are numerous adjustments to shock die rolls, some of which are listed here and some of which are given in the individual ship descriptions. All of these are cumulative (although some cannot occur on the same ship).

(D23.51) OUTSTANDING CREW: Subtract one from each shock die roll if the crew is outstanding; see (G21.216).

(D23.52) POOR CREW: Add one to each shock die roll if the crew is poor; see (G21.116).

(D23.53) LEGENDARY OFFICERS have an effect on shock. A legendary captain cannot produce these effects unless acting in the positions noted (G22.23).
(D23.531) If there is a legendary engineer (G22.415) on board as part of the crew, subtract one from each shock effect die roll. This is cumulative with crew effects and a legendary weapons officer. A legendary engineer also has certain inherent effects on repairs.
(D23.532) If there is a legendary weapons officer (G22.724) on board as part of the crew, subtract one from each shock effect die roll. This is cumulative with crew effects and a legendary engineer.

(D23.54) COMPUTER CONTROLLED SHIPS (G11.0) do not have the (G21.216) benefit because it is the living crew, not the computer, that is maintaining the weapon. There is, in effect, no interaction between a computer and shock.

(D24.0) ANDROMEDAN CRITICAL HITS *(Optional)*

To increase the excitement of particularly tense scenarios, players may wish to include the possibility of critical hits (D8.0). If they do so, the Andromedan ships (because of their unique nature) will require special handling. The following rules are the Andromedan version of the (D8.0) Critical Hit rules. Both (D8.0) and (D24.) must be used, or neither.

(D24.1) ANDROMEDAN PROCEDURE

The Andromedans, with their unusual technology, have many similarities, but also some oddities, when a critical hit is scored on one of their ships.

(D24.11) PANELS: The Andromedan's PA panels are better able to block the random power surges that account for most critical hits. If 40 or more damage points are scored on a given set of PA panels in any single impulse, that ship must roll two dice to determine if a critical hit has been scored. See the results in (D24.2).

(D24.12) PENETRATION: If twenty or more points of internal damage are scored in the current impulse against a given Andromedan ship (including damage caused by released power), that ship must roll two dice to determine if a critical hit has been scored. See the results in (D24.2).

(D24.13) CONCURRENCE: Only one such roll is made during any given turn, even if one or both the conditions are met several times during the turn.

(D24.14) POWER TRANSFERS do not trigger the critical hit system. Only damage points do so.

(D24.2) EFFECT ON ANDROMEDAN UNITS

The systems that suffer a critical hit, the effect of those hits, and where they are different from such a hit on a Galactic Powers ship are as follows:

2 = Active fire control (D6.6) fails; ship switches to passive fire control (D19.0) until active system is repaired. [Same as (D8.0).]

3 = Battery failure. The Andromedan ship cannot access the batteries for any reason. No power can be added to or taken from the batteries; no power currently stored in the batteries is lost. Note that this is different from such a result on a Galactic Powers ship.

4 = Transporter failure. Transporters cannot be used until repaired. This result is no different than for a Galactic Powers ship, but note that this will prevent a mothership from recovering its satellites, although it CAN still launch them by using the displacement device.

5 = Power failure in the labs. Labs cannot be used until repaired. Emergency damage repair (D14.0) is impossible; any such repairs in progress are lost. [Same as (D8.0).]

6–8 = No critical hit.

9 = Tractor beam breakdown. Tractors cannot be used until repaired. All existing tractor links are released. This could cause docking to be broken; ships inside the hangar would be unaffected, however. Negative tractor can still be used. This result is different than for a Galactic Powers ship in that the Andromedan ship also cannot use a TR beam as a tractor (E9.4) until this critical is repaired, except that (E9.43) negative tractor may be used normally. TRs can still be fired normally (as weapons).

10 = Hatch controls jammed. This will prevent the ship from using its (R10.1D42) hatch to lay T-bombs or allow shuttles to land until it is repaired. [Same as (D8.0).]

11 = Maneuver restricted. Ship cannot exceed a speed of eight, cannot perform an HET or EM, and its Turn Mode is increased by one at all speeds. [Same as (D8.0).]

12 = Warp engine controls are damaged, and the ship cannot use warp energy for movement. One-half of the output of the warp engines can be used for other purposes; the other half of the power cannot be used for any purpose until repaired. [Same as (D8.0).] See (D24.23).

(D24.21) DESTRUCTION: Critical hits never destroy any system. They only prevent its use until the critical hit is repaired. In the case of Andromedan ships, however, the loss of power under result twelve may leave panels with more energy than they can hold, resulting in the release of that energy. Also note that result three would prevent power from flowing to the batteries when released and could also result in internal damage. Note that repairs to critical hits are resolved separately from repairs to damage.

(D24.22) EFFECT: All critical hits take effect immediately.

(D24.23) WARP: In the case of a warp engine critical hit, the ship stops moving immediately. If impulse power was allocated to movement, the ship may use it to make one Tactical Maneuver during the remainder of the turn. The ship's Energy Allocation Form must be adjusted immediately by (D22.0); all power to movement may be cancelled.

(D24.3) REPAIR

(D24.31) PROCEDURE: All critical hits are repaired in the same manner, but if more than one is in effect, the owning player may only attempt to repair one of them during the turn. The ship's damage control parties perform this function. The procedure is to roll one die at the end of the turn. If the result is 1-4, the hit is repaired; if the result is 5-6, it is not.

Subtract one from the die roll for the second (and two for the third and subsequent) attempt to repair the same occurrence of the same hit. Outstanding (G21.132) and poor (G21.232) crews have a die roll modifier.

(D24.32) LEGENDARY OFFICERS: Legendary Engineers and Science Officers can use (G22.41) to make "independent attempts" to repair critical hits, but no two officers can work on the same critical hit. They must be in the box they are repairing, but would become casualties if ship combat damage struck their previous duty station. Officers must be in a control box to repair fire control or maneuver hits.

(D25.0) JINDARIAN ARMOR

The Jindarians make only a minimal use of shields (R16.1A) and shield technology (R16.1B). They rely mostly on the sheer mass (rock and metal) of their ships to withstand damage. The result of this mass is that their ships are very slow, but they are also very sturdy.

(D25.1) GENERAL

Armor on Jindarian asteroid ships operates as shields for purposes of blocking damage to the interior of the ship (D3.21). This means that the ship will not sustain any internal damage (D4.13) from direct-fire or seeking weapons until all armor boxes in a given "shield arc" have been destroyed.

These rules do not apply to non-asteroid Jindarian ships.

(D25.11) TRANSPORTERS: As with normal armor (D4.12), Jindarian armor will not block transporters. The Jindarians employed a mixture of shield technologies for this latter purpose [(R16.1A) and (R16.1B)].

(D25.12) DAMAGE is resolved against the shields (if operational) and then against the armor.

(D25.13) HELLBORE DAMAGE: Hellbores (E10.0) operate in a more restricted fashion when used against Jindarian ships.

(D25.131) If the Jindarian ship was operating its shields, the damage from an enveloping hellbore would be scored normally under (E10.4). Damage penetrating each shield is scored against the armor belt behind that shield (until it is all destroyed).

(D25.132) If the Jindarian ship is not operating its shields, an enveloping hellbore that hits a Jindarian asteroid ship will be divided equally among all six armor belts. Any excess points (left over after dividing the weapon strength by six) will be distributed by the Jindarian player to the various armor belts, with no more than one damage point scored on any given belt. In essence, hellbore damage is resolved in the same way as enveloping plasma torpedoes [(FP5.31) and (D25.14)] if the shields of the target are not operating.

For example, if nine points were scored on a Jindarian asteroid ship, one point would be scored on each of the six armor belts, and the remaining three points would be assigned by the Jindarian player.

(D25.14) ENVELOPING PLASMA TORPEDOES: If an EPT strikes a Jindarian ship with any operating shields, divide the damage evenly among the six shields, with any leftover points allocated up to one per shield at the Jindarian player's option (FP5.31). Any damage penetrating the shields, or scored on a down shield, strikes the armor behind that shield before doing internal damage. If a Jindarian ship is not operating shields, then EPT damage is divided evenly among the armor belts, with any extra points being scored on a belt of the receiving player's option, no more than one extra point per belt.

(D25.15) PLASMATIC PULSAR DEVICES striking a Jindarian ship will score damage normally (E11.35).

(D25.16) SPEARFISH DRONES cannot ignore Jindarian armor, and all of their "internal" damage is scored on the armor belt of the relevant shield arc so long as there is any armor left in that arc.

(D25.17) LEAKY SHIELDS: There is no equivalent of (D3.6) for armor. Armor simply does not leak.

(D25.2) REPAIRS

Jindarian ships have a very limited ability to repair their armor during a scenario. This is not actually replacing solid rock that has been vaporized or blown clear of the main asteroid, but represents the application of bracing materials and instant-setting ferro-concretes to weakened sections. This rule expands the procedures of (D9.0) for the Jindarians. This repair can be conducted simultaneously with (D9.2) repairs to shields or other repairs under (D9.7) and does not reduce those repair capabilities in any way.

(D25.21) SIZE-2 UNITS: A Jindarian size class 2 unit (DN, BCH) can repair up to fifteen damage points on its armor during a given scenario. This repair requires two points of power from any source per point of damage repaired, and no more power may be applied on any given turn than the highest damage control rating of the ship. This is an exception to the note in Annex #9 prohibiting the repair of armor during a scenario.

(D25.22) SIZE-3 UNITS: A Jindarian size class 3 unit (CA, CL) can repair up to eight damage points on its armor during a given scenario. This repair requires two points of power from any source per point of damage repaired, and no more power may be applied on any given turn than the highest damage control rating of the ship. This is an exception to the note in Annex #9 prohibiting the repair of armor during a scenario.

(D25.23) SIZE-4 UNITS: The size class 4 units (DD, FF) do not use "rock armor" (or ATFs) but instead operate in all ways as conventional starships with conventional shields.

(D25.24) CAMPAIGN REPAIRS: Between scenarios of a campaign, any Jindarian ship in an asteroid zone (field or belt) can fully repair its armor. If the ship was not in an asteroid zone between scenarios, its repair capability is extremely limited. Such a ship can only repair a number of armor damage points equal to 1/5th the total number of armor points on the entire ship before damage was applied between scenarios of a campaign. See (D9.4).

(D25.3) ENGINES

Jindarian impulse and warp drives are buried deep inside the rock base of their ships. The actual exhausts are well inside the outside surface and are frequently disguised as craters and/or fissures. This shrouds the engines and protects them from direct damage as a result of enveloping weapon explosions, or from direct-fire or drone weapon hits aimed at them. The engines can only be damaged as a result of damage points scored by the DAC after the armor has been penetrated (i.e., there is no special rule regarding engine damage; some players might feel it logical that there should be).

Jindarian ships cannot drop their warp engines (R16.1C96).

(D25.4) PSEUDO-ARMOR

In asteroid zones, it is not uncommon for a Jindarian ship to "dock" to a large asteroid when it has sustained heavy damage to one of its armor belts to protect that armor arc from further damage (P3.43). Note that any ship in the game can do this; it does require that the ship stop, however.

(D26.0) BOARDING JINDARIAN SHIPS

Jindarian asteroid ships are constructed from asteroids riddled with tunnels that were originally used as mineshafts. The result is that each asteroid ship is unique in the layout of its internal makeup. This creates a number of problems for boarding parties attempting to capture, or even to raid the asteroid ship, while creating a number of advantages for the Jindarians in defending their asteroid ships. This modifies (D7.0).

This rule applies to Jindarian asteroid ships and as of this printing also to asteroid shipyards operated by non-Jindarian empires in the Magellanic Cloud. It does not apply to non-Asteroid ships, whether Jindarian or not.

(D26.1) HIT-AND-RUN RAIDS

(D26.11) RESTRICTION: No hit-and-run raids can be conducted against any system on a Jindarian asteroid ship unless that asteroid ship has been "scanned" (D26.12) or the scenario instructions indicate otherwise.

Once this information is gained on that single Jindarian asteroid ship, hit-and-run raids may be conducted normally on systems of that one asteroid ship (not class). Gaining information on one Jindarian asteroid ship does not provide any information about any other Jindarian asteroid ship. Once a ship has scanned a Jindarian asteroid ship, the information will be available to all other friendly ships in that scenario (or campaign).

Once a Jindarian asteroid ship has been scanned, the information is still valid for later scenarios *of that campaign* once the specific Jindarian asteroid ship is identified by name (i.e., by Tac Intel Level L). This does not apply to scenarios (even historical scenarios) not part of a campaign.

(D26.12) HOW TO SCAN: "Scanning" requires the acquisition of Level M information under (D17.0) Tactical Intelligence.

If not using Tactical Intelligence, a scanning unit must remain within the distance designated below (or closer) of the Jindarian asteroid ship with active fire control for 96 impulses out of a period of 160 consecutive impulses. Another way to scan a Jindarian asteroid ship is to move within the designated distance AND have a positive EW shift (D17.26). The designated distance is provided, for each type of scanning unit, by the table below (which is taken from the Tactical Intelligence Chart):

Level	Scout using channel	Ship	PFS, SWAC	MRS, PF, EWF	Manned Shuttle	Probe Drone
L	6	4	1	1	–	–

Note that probe drones and manned shuttles (other than MRS, SWAC, and EWF) can never obtain this information.

More than one Jindarian asteroid ship can be scanned during the same impulse(s) by the same or different ships.

This scanning cannot be done in a nova (D17.2253).

(D26.2) BOARDING

Jindarian asteroid ships can be boarded after scanning them as defined in (D26.12) above or (with more risk) without scanning. (Jindarians boarding other Jindarian asteroid ships NOT of their caravan suffer the same penalties.)

(D26.21) AFTER SCANNING: Boarding parties placed on Jindarian asteroid ships that have been scanned (D26.12) operate normally.

(D26.22) WITHOUT SCANNING: If boarding parties are placed on a Jindarian asteroid ship without previously scanning, it they will probably become "bewildered" in the warren of mine shafts in unoccupied parts of the Jindarian asteroid ship. [The term "bewildered" is used instead of "lost" since the latter term can also mean "destroyed".] Worse, they will run afoul of booby traps left in areas of the Jindarian asteroid ship that are not frequented by the Jindarians themselves. Such traps are very difficult to detect as there is often no electronic system associated with them that combat tricorders could pick up, leaving the boarding parties totally dependent on their own skills. To reflect this, roll a single die in the Final Activities Phase as the first action of the Boarding Party Combat Step for each boarding party aboard the Jindarian asteroid ship and consult the following table:

1	Boarding Party destroyed by trap.
2	Boarding Party destroyed by trap.
3	Boarding Party bewildered, roll again next turn.
4	Boarding Party bewildered, roll again next turn.
5	Boarding Party reaches occupied area of the Jindarian asteroid ship, conduct normal boarding combat die rolls.
6	Boarding Party reaches occupied area of the Jindarian asteroid ship, conduct normal boarding combat die rolls.

The die is rolled for each boarding party separately as the internal structure of the Jindarian asteroid ship will force them to all arrive in slightly different locations to find enough room.

Add one to the die roll if the boarding party is a Commando, is accompanied by a Legendary Ground Forces Officer or Marine Major, or is from an Outstanding Crew. Subtract one from the die roll if the boarding party is from a Poor Crew. Die roll modifiers are not additive, but a negative and a positive modifier will cancel out. A modified die roll less than one is treated as one; a modified die roll more than six is treated as six.

(D26.23) BEWILDERMENT: Bewildered boarding parties are treated under these special rules.

(D26.231) If the boarding party is bewildered, it may be retrieved by transporter, or roll on the table again at the end of the next turn if not retrieved. Even if a friendly ship completes a scan, the boarding party remains bewildered until withdrawn by transporter or they reach an occupied section (D26.233).

(D26.232) Bewildered boarding parties may be attacked by Jindarian boarding parties as a separate battle from the main action [or from any other area if using (D16.0)], but ONLY if all non-bewildered enemy boarding parties are attacked by at least an equal number of Jindarian boarding parties (equal to the non-bewildered boarding parties).

(D26.233) Bewildered boarding parties which have reached an occupied area of the Jindarian asteroid ship (die roll five or six above) function normally from that point, but no additional boarding parties can be transported in to reinforce them until after the next subsequent Final Activities Phase, e.g., if the boarding party rolled a six during the Final Activities Phase of Turn #1, it cannot be reinforced until Impulse #1 of Turn #3.

[The "reinforcing" BPs avoid the die roll of (D26.22), but only because the other BPs have been able to set up a transporter beacon.]

(D26.24) SPECIAL BONUSES: Jindarians receive a +1 to the boarding party combat die roll when defending their own asteroid ship (or any asteroid ship in their caravan) and a -1 when boarding a non-Jindarian ship. (There is no penalty or bonus in the case of a Jindarian non-asteroid ship of another caravan.) This reflects their natural adaptation to its specific gravity and atmosphere. This modifier does not apply to hit-and-run raids.

(D26.25) DOCKING: See (R16.1C3) for docking.

END OF SECTION (D0.0)

(E0.0) DIRECT-FIRE WEAPONS

(E1.0) GENERAL RULES

Direct-fire weapons are those which are fired and which take effect immediately. A phaser (or cannon) is a direct-fire weapon. A drone (or missile) is a seeking weapon.

(E1.1) PROCEDURE

(E1.11) WHEN: Direct-fire weapons are fired during the Direct Fire Weapons Segment (6D) of the Impulse Procedure of an impulse. Their effects are determined and recorded immediately upon firing.

(E1.12) ANNOUNCEMENT: There are no counters for direct-fire weapons. A player simply indicates his ship and the target and says (for example): "I am firing my two forward phasers at your ship." Unless specified otherwise in a given weapon's description (E11.311), the player must announce the arming status of the weapon, i.e., overloaded, proximity fused, phaser-2 firing as a phaser-3, or any special rules (UIM, Derfacs), before rolling the die.

(E1.13) SIMULTANEOUS FIRE: Two units firing on each other during the same impulse are presumed to fire simultaneously. (The fire of both is calculated and determined before damage to either is applied.) See (D13.141) for a possible exception.

(E1.14) SSD: Each box on the SSD represents one weapon of the indicated type. Each box can arm and fire one shot (salvo, burst, firing, torpedo, or whatever) at a time. You cannot, for example, load two photon torpedoes in a single photon box at the same time.

(E1.15) RANGE: See (D1.4) for definition of true range and effective range.

(E1.16) CLOAKS: When firing at cloaked ships, the effect of the weapons may be reduced by (G13.37).

(E1.17) WASTED FIRE: A player always has the option of simply firing his weapons into open space. Doing so imposes the delays of (E1.50). Note that heavy weapons may be discharged under (E1.24).

(E1.2) REQUIREMENTS

(E1.21) GENERAL: To be fired, a weapon must satisfy all requirements of the rules. Various rules and events could prevent a weapon from firing. A given weapon must be free from all prohibitions in the rules to be fired.
(E1.211) Each direct-fire weapon may be fired only ONCE per turn (E1.5), and then only if they have satisfied their requirements for energy (see the specific rules for each weapons type).
(E1.212) All direct-fire weapons have a definite field of fire which is shown on their SSD and cannot engage targets outside of their field of fire unless allowed by the rules.
(E1.213) Gatling phasers (E2.151), anti-drones (E5.13), maulers (E8.12), MCIDS (E6.31), and plasmatic pulsar devices (E11.33) are excepted from the limitation of firing once per turn. See the specific rules for each type of weapon.

(E1.22) UNIT IN TARGET HEX: The presence of a unit in the same hex as the target, or in a hex in between the firing unit and the target, has no effect. Fire is never blocked by such a unit, and the unit is never damaged by the fire. (Starships are small things compared to hexes 6,213.7 miles across.)
(E1.221) Planets and other terrain from section (P0.0), along with webs (G10.0), are not "units" and can block fire if their rules provide so.
(E1.222) Firing arcs can be blocked during docking. See (C13.72) for external docking to a base, (C13.48) when docked inside another unit, and (C13.941) for docking to another ship.
(E1.223) Hellbores interact with ESGs in a unique manner (G23.84) which could be seen as a partial exception to this rule.

(E1.23) SINGLE-TARGET: A given direct-fire weapon cannot damage several targets with the same shot. This includes targets in the same hex and targets in a row in two or more separate hexes. Weapons which miss their target never strike other targets beyond it.

(E1.24) DISCHARGE: Various rules require that a loaded direct-fire weapon be discharged (disposed of, unloaded, fired into empty space, allowed to dissipate in the tubes, etc.) if it cannot be fired.
(E1.241) This act can be conducted during any impulse or in the Final Activity Phase. It can be observed and must be announced to the other players. The amount of energy discharged from each weapon is known unless defined otherwise (e.g., R1.7). When using D17.0 Tactical Intel, this is detected at Level B, or 50 hexes for most ships.
(E1.242) Discharging can be done by several methods; your weapon crews will select the one most appropriate to the situation. It is never impossible to discharge a weapon. See (R1.7B) for Q-ships.
(E1.243) Discharging a weapon does not count as firing it for purposes of firing rates (E1.5) unless otherwise provided in the rules for a specific weapon [fusion overloads (E7.412) for example].
(E1.244) If a unit does not discharge a held, or arming, multi-turn weapon at the end of a turn, it can do so during energy allocation of a subsequent turn by not paying the required holding energy or the required additional charging energy. Such a weapon cannot begin arming in that same energy allocation phase. It could, however, begin arming as early as Impulse #1 (or as late as Impulse #32 or any impulse in-between) with reserve power. The fact that a weapon is being discharged during energy allocation must be announced as part of the Initial Activity Stage (5), and the amount of energy discharged revealed as per (E1.241).

EXAMPLE: A unit might have allocated to overload a photon torpedo, or to begin overloading it, on the first turn of arming and realize that it does not need (or want) the overloaded photon during energy allocation of the following turn. However, if the weapon was not discharged at the end of the previous turn, it cannot have energy allocated to it during Energy Allocation of the current turn, but can begin arming with reserve power during any impulse of the turn.

(E1.3) EFFECTS

(E1.31) TABLES: The effects of each direct-fire weapon are shown on the various weapons tables. The number of damage points scored by a given weapon on a given firing depends on the type of weapon, the range, and a die roll.

(E1.32) HIT-OR-MISS WEAPONS: Some direct-fire weapons, such as photon torpedoes and disruptor bolts either hit or miss their targets. These are called "hit-or-miss" weapons because the target either receives the full effect or none at all.

(E1.33) RANGE-OF-EFFECTS WEAPONS: Other direct-fire weapons, such as phasers, score a variable number of points at a given range under given conditions.

(E1.4) FINALITY OF EFFECT

There is no counter-weapon to a direct-fire weapon. While clever maneuvers will restrict your opponent's ability to get in a decisive shot, and your shields will reduce the damage he causes, there is nothing that can be done directly against the fire of the weapon. [You could reinforce shields after a weapon is fired under (H7.34) to mitigate the damage.]

(E1.5) FIRING RATES

(E1.50) BASIC RULE: No weapon may be fired twice within a period of one-fourth of a turn. (Note that, in most cases, this involves firing the weapon on two consecutive turns.) For example, if a specific phaser were fired during Impulse #29 of one turn, it could not be fired again before Impulse #5 of the next turn. This rule is NOT to be interpreted as meaning that a weapon can be fired more than once per turn. It is intended to eliminate the unrealistic tactic of firing a "full

broadside" on Impulse #32 of one turn and then repeating it on Impulse #1 of the next.

(E1.51) RAPID FIRE: Certain weapons (E1.213) are specifically capable of being fired more, or less, rapidly. Specific rules for specific weapons will take precedence over (E1.5), for example (E2.151) Gatling Phasers.

(E1.52) EXAMPLE: A weapon is fired on Impulse #25. It must wait through Impulses #26 (one), #27 (two), #28 (three), #29 (four), #30 (five), #31 (six), #32 (seven), and then could fire on Impulse #1 (eight impulses later) of the next turn. For this reason, Impulse #25 is often known as the "Impulse of Decision" because it is the last impulse on which most weapons can fire and still be able to fire on the first impulse (known as the "Impulse of Truth") of the next turn. The "Impulse of Truth" will often be critical because ships can switch power from movement into weapons and fire full overloaded salvoes with no chance for the target to change shield facings.

(E1.6) NARROW SALVOES *(Advanced)*

Two or more direct-fire weapons (unless otherwise noted in the rules) can be fired in a narrow salvo. This is basically an "all or nothing" proposition, i.e., all of the weapons of the salvo will use the same die roll. Usually, weapons fired simultaneously are fired into a pattern that will insure at least some hits on the target but preclude maximum effect. Narrow salvoes concentrate the fire of weapons onto a single point. While there is less chance of success, that success can be devastating.

Most players who use narrow salvoes use them at the wrong time against the wrong target. In general ship-vs-ship combat, there is virtually no occasion in which their use is tactically advantageous. It will take several salvoes to destroy the enemy, and using narrow salvoes only creates the statistical possibility that all of them could miss.

The only valid use for narrow salvoes is in those cases where "some" damage would actually be worse than "no damage" to a given target. For example, damaging a scatter-pack (FD7.0) will cause it to release its drones, while destroying it would be preferable. Another example might be combat against an Andromedan ship, in which case damage insufficient to penetrate the power absorber panels would simply give the Andromedan more power to use against you. Narrow salvoes might be used effectively at long range when the enemy is known to have a few points of reinforcement, as any damage which does not penetrate this reinforcement is often meaningless.

(E1.61) CONDITIONS: Only direct-fire weapons of a single type being fired by a single ship during a single impulse in a single volley at a single target can be concentrated into a narrow salvo. See the specific rules for each weapon for exceptions and restrictions.
(E1.611) While normal and overloaded weapons (of a single type) could be fired together in a narrow salvo, proximity and non-proximity photons cannot.
(E1.612) Different types of phasers CAN be combined in a narrow salvo; the same die roll result is used on each of the various tables. Different types and sizes of plasma bolts can be fired in a narrow salvo.
(E1.613) Disruptors of different ranges on the same ship [which can happen with hasty repairs (G17.5) or a Klingon battle tug] can be combined into a narrow salvo. Overloaded and normally loaded disruptors can be combined into a narrow salvo. Disruptors fired with or without DERFACS or UIM support could be fired in a narrow salvo.
(E1.614) A narrow salvo must all be fired at the same instant, i.e., during the same impulse, and all must be committed to fire before the die is rolled.

(E1.62) PROCEDURE: Resolve the fire of one weapon normally. All other weapons in the same narrow salvo use the same die roll. (i.e., you simply roll one die, and use that result for each weapon. If you score one hit, you score several.)

(E1.63) OTHER NARROW SALVO RULES
(E1.631) A player using a narrow salvo for some of his weapons is not required to use it for all of his weapons, even if fired at the same target during a single impulse.
(E1.632) Seeking weapons cannot be fired in narrow salvos.
(E1.633) A given ship can fire two or more narrow salvoes at the same target (or several different targets), even during a single impulse, but must roll a separate die for each one.
(E1.634) A given target might be struck on the same impulse with any number of weapons (narrow salvoed or otherwise) from any number of firing units. These would be combined into volleys (D4.22) for purposes of damage allocation within the provisions of (D4.0).
(E1.635) If two or more ADDs are narrow-salvoed at a shuttle, roll one die to see if there is a hit and then roll separately for the effect of each ADD that hit.

(E1.7) SMALL TARGET FIRING MODIFICATIONS

Due to their small size and normally agile maneuvers, drones and fighters are difficult targets to hit at long range. When firing at certain types of units with direct-fire weapons, these "small targets" receive ECM (Electronic Counter Measures) points to reflect the difficulty in hitting them:

Target Type	ECM points at Stated Effective Range		
	none	+2	+4
Admin Shuttle, SWAC, MSS, MRS, MLS, HTS, GAS, Heavy Fighters	0 – 11	12 – 24	25+
Fighter, Drone	0 – 9	10 – 19	20+
Nimble ship†	0 – 14	15 – 29	30+

These are considered as ECM points from a natural source (D6.3143) and are not included in the self-generated limit or the received from lending limit. Small Target Modifiers are based on the effective range (D1.4).

† See (C11.0) for rules, Annex #7F for a list of such ships. Ships include PFs and Interceptors. Shuttles are nimble units but are handled separately for (E1.7).

(E1.71) CUMULATIVE: These effects are not cumulative with the effects of Erratic Maneuvers (C10.4); the player owning the target unit may decide which to use. They are cumulative with specific weapons penalties when firing at drones (FD1.5). They are cumulative with electronic warfare (D6.3).

(E1.72) SEEKING WEAPONS: Seeking weapons fired at small targets are unaffected by this rule.

(E1.8) DIE ROLL MODIFIERS

There are several rules which can produce die roll modifiers. These change the probability of a hit or damage.

(E1.81) SOURCES OF DIE ROLL SHIFTS: Several rules can produce die-roll shifts.
(E1.811) ELECTRONIC WARFARE: The primary source of die roll modifiers is electronic warfare (D6.3), which includes numerous effects. Most modifiers are expressed in terms of EW points, for example, small targets (E1.7), specific weapons fired at drones (FD1.5), poor crew (G21.111), outstanding crew (G21.211), etc., all of which are cumulative and part of the overall EW rules.
(E1.812) LEGENDARY WEAPONS OFFICER (G22.72) has a die roll modifier of -1 for direct-fire weapons. This modifier is combined with any other modifiers to determine the single combined modifier. It is not ECCM.

(E1.82) EFFECT OF DIE ROLL SHIFTS: Die roll shifts are applied as follows:
(E1.821) HIT-OR-MISS WEAPONS: For hit-or miss weapons (photon, disruptor, hellbore, plasma bolt, plasmatic pulsar wavelock), positive modifiers (e.g., +1) are simply added to the die roll. If the result is more than the "to hit" number, the weapon misses.
(E1.822) RANGE-OF-EFFECT WEAPONS: In the case of "range of effect" weapons (phasers, fusion beams, TR beams), a positive modifier is added to the die roll. If the result exceeds the highest

number on the chart (usually six), take any additional shifts by moving to the highest numbered result on the next higher range column (one column per shift).

EXAMPLE: Nine ECM points have produced a die roll modifier of +3 applied to the firing of a phaser-1 at Range 3. The die roll is four, which would normally result in four damage points. Two of the three ECM shifts are used to raise the die roll from four to six, the third is used to increase the range to the next column (Range 4). The adjusted result is two points of damage (die roll six, Range 4). If the original die roll had been two, the final result would be die roll five, Range 3. If the original die roll had been six, the final result would be die roll six, Range 6-8.

(E1.823) MAULERS have a "to hit" number of two-to-twelve with two dice. Roll two dice and add the modifier. A result of thirteen or more is a miss. See (E8.24).

(E1.83) NEGATIVE MODIFIERS: A negative die roll modifier cannot reduce a die roll below one. If there is a negative modifier (e.g., -1 from a legendary officer) and the die roll is one, the modifier is ignored. Do NOT shift to a lower range column.

(E2.0) PHASERS

The phaser is the primary weapon of most starships in the game. It is a phased energy beam which, when striking the target, does physical damage due to its kinetic force and also creates an electrical discharge that can burn out various systems. There are five types of phasers, each of which uses a different table when fired at an enemy ship or other target.

(E2.1) TYPES OF PHASERS

(E2.11) TYPE I - OFFENSIVE PHASER: This is the most powerful type of phaser carried by starships, causing considerable damage out to as much as eight hexes. It costs one unit of energy to fire a phaser-1 one time.

The terms phaser-I, phaser-1, ph-1, and ph-I are used interchangeably, although ph-1 is the most common.

(E2.12) TYPE II - OFFENSIVE-DEFENSIVE PHASER: These are shorter-ranged than phaser-1s due to less accurate fire control. It costs one point of energy to fire a phaser-2 one time. Many ships equipped with phaser-2s were later refitted with improved fire control, improving some of their ph-2s to ph-1s.

The terms phaser-II, phaser-2, ph-2, and ph-II are used interchangeably, although ph-2 is the most common.

(E2.13) TYPE III - POINT DEFENSE PHASER: This type of phaser is the least powerful of all, having an effective range of only one or two hexes. They were designed to be used against drones. In practice they are often used against other ships in combat, but are, of course, less effective. The phasers carried by administrative shuttles (J2.213) and many fighters use the phaser-3 table. It costs 1/2 unit of power to fire a ph-3 one time. This cost is used even if fractional accounting (B3.2) is not used; most ph-3s are in pairs so the calculation will be simplified.

The terms phaser-III, phaser-3, ph-3, and ph-III are used interchangeably, although ph-3 is the most common.

(E2.14) TYPE IV - HEAVY PHASER: A very powerful model used only on bases. It costs two units of power to fire a phaser-4 one time.

Due to the fire control system, which requires positional stabilizers (G29.26), ships can never carry a ph-4; only bases with stabilizers can use it. (Several monsters in *SFB* use the phaser-4 table to approximate other weapons.)

Orions can never have ph-4s under *any* circumstances.

The terms phaser-IV, phaser-4, ph-4, and ph-IV are used interchangeably, although ph-4 is the most common.

(E2.15) TYPE G - GATLING PHASER: A particularly vicious weapon developed by the Hydrans and later copied (to a limited extent) by the Federation and some pirates.

The terms phaser-G, and ph-G are used interchangeably, although ph-G is the most common.

(E2.151) A gatling phaser can be fired up to four times during a single turn. Each firing may be during the same or a different impulse and at the same or a different target. Gatling phasers can fire at different targets in the same impulse. A gatling phaser cannot fire more than four shots per turn, nor can it fire more than four shots within a 1/4-turn period. The 1/4-turn period can include some shots fired during the final portion of one turn and some shots fired during the early portion of the subsequent turn.

(E2.152) The effect of a phaser-G is determined on the phaser-3 table. Each firing costs 1/4 of an energy unit (a total of one point for all four shots). Fractional accounting (B3.2) can be used if only one-to-three shots are fired on a given turn.

(E2.153) Two or more shots from a single gatling phaser can be combined into a narrow salvo (E1.6), possibly with other phasers.

(E2.2) RESTRICTIONS AND CONDITIONS

(E2.21) AVAILABILITY: A given ship may fire any number of its phasers in a given impulse, assuming that energy has been allocated, is available from the reserve (H7.52), or stored in the capacitors (H6.0) for this purpose and that other rules (e.g., firing arcs, firing rates, fire control, friendly fire, etc.) are satisfied.

(E2.22) ENERGY: Players must allocate energy in the Energy Allocation Phase or have reserve power (H7.52) available to be able to fire their phasers. The power must pass through the phaser capacitor system to be used for phasers. See the rules on energy allocation (B3.0) and phaser capacitors (H6.22) for more details. See also (H7.36).

NOTE: Shuttles and fighters do not pay energy to fire their phasers.

(E2.23) FREQUENCY: During each turn, each phaser on the ship may be fired no more than one time [exception: gatlings (E2.151)]. Note that all phasers have a specific field of fire (D2.0), and that a ship might not have targets for all of its phasers on a given turn. Possible fields of fire for the ensuing turn should be considered when planning how much energy to allocate to firing phasers.

(E2.24) SSD: Each box on the SSD represents one phaser and can be destroyed by a single internal damage point allocated to phasers. Most, but not all, phasers are arrayed in "banks" of two or more connected boxes; each box operates independently although all boxes of a given bank have the same firing arc.

(E2.25) LOW-POWER: Phasers can be fired at low power. This may be done to save power, or because there is not enough power, or because of special scenario rules, or other tactical considerations, such as to avoid blinding special sensors (G24.34). A low-powered firing counts as the single firing of that phaser for that turn. This rule does not imply that ph-1s, ph-2s, or ph-4s can be fired more than once per turn in this mode.

(E2.251) Any ph-1, ph-2, or ph-4 can be fired as a ph-3 by using only 1/2-unit of power. See (B3.2).

(E2.252) A ph-4 could fire as a ph-1 or ph-2 for one point of power.

(E2.253) A ph-1 could be fired as a ph-2 although the only reason to do so would be as a means of deception (D17.76) as to the class or refit status of an incompletely identified ship.

(E2.3) ENERGIZING PHASERS

(E2.30) PROCEDURE: Before phasers can be fired, they must be energized (i.e., "warmed up"). Ships do not normally enter "peacetime conflict" scenarios with their phasers energized because they were not expecting to face combat; this is Weapon Status 0 as defined in (S4.1). When at Weapon Status 0, the ship will be unable to fire phasers on the first turn of the scenario. The typical patrol of a cruiser has been described as "six months of boredom and an hour of stark, screaming terror." Without knowing when that hour will come, the ship can ill afford to burn fuel keeping weapons ready to fire. When a ship is in a potential danger area, the captain may order Weapon Status 1 (S4.1) which keeps the phasers energized.

In wartime, or when the ship has been summoned to the point of battle, scenarios will often specify a Weapon Status of one or higher.

(E2.31) COST: It costs one point of energy for one turn to energize all of the phasers (of all types) on board a given ship. During and prior to that turn, no energy may be allocated to the phasers (other than the energy to energize them) or stored in the capacitors of that ship. This point of power is used to energize the phaser capacitors; it cannot be used to fire the phasers. It does not go into the capacitors.

(E2.32) MAINTAINABILITY: The capacitor system of a unit remains energized for 25 turns after the last time a phaser was fired or one point of energy was expended for energization. Energy already in the capacitors could be expended to re-energize them. If the phaser capacitor system becomes non-energized, all power in the capacitors is lost. If an individual phaser is destroyed and subsequently repaired, it is already energized if the system is still energized (and can have energy stored in its capacitor). If all of the phasers are destroyed at a given point in time, the phaser capacitor system will still remain energized for the normal period, although it will hold no energy and cannot be re-energized if it becomes non-energized (unless part of it is repaired).

(E2.33) ENERGIZING WITH RESERVE POWER: A ship at Weapon Status 0 (capacitors unenergized) could begin energizing them with reserve power in mid-turn (perhaps after detecting an unexpected enemy). The phasers cannot be fired until 32 impulses after this energizing is begun although power can be allocated to the capacitors on the next Energy Allocation Phase.

(E2.4) FIRING PHASERS

(E2.41) PROCEDURE: When firing phasers, first determine the range to the target (D1.4). Note that the effective range may be different from the true range due to the effects of cloaking devices (G13.0), sensors (D6.1), scanners (D6.2), etc. Then roll one die [the die result may be adjusted by electronic warfare or other effects; see (E1.8)] and cross-index the result with the range on the appropriate phaser chart to yield the number of damage points scored.
(E2.411) EXAMPLE #1: A phaser-3 is being fired at a target three hexes away. There is no electronic warfare. The die roll is "2" which means that two points of damage have been scored.
(E2.412) EXAMPLE #2: A phaser-1 is being fired at a ship one hex away. However, the ship does not have lock-on, so the range is doubled to two hexes. Further, the firing ship's scanners have been damaged, and it has a scanner rating of one, yielding an effective range of three hexes. The die is rolled and the result is a "1," which would normally mean six damage points (it would have been eight if the fire control systems had been working and the effective range shorter). In this case, however, there is one electronic warfare shift (D6.3), which increases the die roll to "2" and yields five damage points.

(E2.42) OVERLOADS: Phasers cannot be overloaded, including those on X-ships (XE2.42). See (H7.525).

(E3.0) DISRUPTOR BOLTS

Disruptor bolts are carried by Klingon, Tholian, Lyran, and Kzinti ships. (Certain other ships, notably the Orion Pirates and the WYN, also use disruptors on some of their ships.) Disruptors operate on the principle of an energy discharge. They do less damage with a single shot than photon torpedoes, but can be fired more often.

The comparison between disruptors and photon torpedoes (E4.0) explains the difference in "combat style" of the Federation and Klingons. Federation ships run in on the target and unload a devastating barrage of photon torpedoes, then must pull out of range to reload. Klingon ships, with their faster firing but less damaging weapons, prefer to use maneuver and speed to repeatedly close range and fire, then pull away (briefly) to reload.

(E3.1) DESIGNATION

Each "DISR" box on the SSD represents one disruptor bolt. Each is recorded and fired separately.

(E3.2) ARMING PROCEDURE

(E3.20) PROCEDURE: Disruptor bolts are fired by the following procedure. Two units of energy are allocated for each bolt which is to be fired. The bolts are an energy discharge and as such cannot be held from one turn to the next. Any bolts for which energy has been allocated, but which have not been fired by the end of the turn, are lost.

(E3.21) SOURCE: Energy to fire disruptor bolts can come from any power source. This can be allocated or reserve power.

(E3.22) FIRING: Disruptor bolts are fired during the Direct-Fire Weapons Fire Stage of the Impulse Procedure. There is no counter for a disruptor bolt. Their effect is determined by die roll and recorded immediately.

(E3.23) RATE: A given disruptor bolt may not be fired more than once per turn.

(E3.24) HOLDING: Armed disruptors cannot be held and fired on a later turn. If energy is allocated to fire a disruptor, and it is not fired on the turn of arming, the energy is lost and cannot be regained. This discharge does not constitute firing the weapon and does not delay firing the weapon (with different energy) on the next turn.

(E3.3) FIRING PROCEDURE

(E3.31) PROCEDURE: The number of damage points scored by the disruptor bolt is determined by the range, the firing characteristics of the weapon being fired, and a die roll. Refer to the DISRUPTOR BOLT CHART (E3.4).

Determine whether standard or overloaded disruptors are being fired and whether normal, UIM, or DERFACS fire control is being used and determine from this which line on the disruptor chart to use. Using the range, determine the hit probability for this weapon configuration.

Roll a single die. If the result is within the range of probabilities listed, the weapon has hit, scoring a number of damage points as shown on the bottom lines of the chart.

(E3.32) RANGE: The maximum range of disruptors (expressed in terms of effective range) is different with each ship class that carries them. Basically, all disruptors are the same, but those on larger ships have more stable firing platforms and better fire control. Refer to Annex #8A. All disruptors on a given ship will have the same range unless some have undergone hasty repairs (G17.5). Disruptors cannot be fired at Range Zero; exception: overloads (E3.5).

(E3.33) RANGE EFFECTS: When the effective range of a disruptor bolt is different from the true range, use the effective range to determine the probability of a hit and the true range to determine the number of damage points scored.

(E3.4) DISRUPTOR BOLT COMBAT CHART ✯

Range	0	1	2	3-4	5-8	9-15	16-22	23-30	31-40
Hit (Std)	NA	1-5	1-5	1-4	1-4	1-4	1-3	1-2	1-2
Hit (UIM)	NA	1-5	1-5	1-4	1-4	1-4	1-4	1-2	1-2
Hit (DER)	NA	1-5	1-5	1-4	1-4	1-4	1-3	1-3	1-2
Damage (S)	0	5	4	4	3	3	2	2	1
Hit (OVLD)	1-6	1-5	1-5	1-4	1-4	NA	NA	NA	NA
Hit (OL/UIM)	1-6	1-5	1-5	1-5	1-5	NA	NA	NA	NA
Damage (O)	10	10	8	8	6	0	0	0	0

(E3.5) DISRUPTOR OVERLOADS *(Advanced)*

Disruptor bolts may be overloaded. This requires more energy, but increases the damage effect.

(E3.51) ALLOCATION: The energy to fire an overloaded disruptor bolt (two points for the normal load plus two more points for the overload) can be allocated at the start of the turn or provided from reserve power. (Reserve power could provide all of the energy, or just the overload portion.) Once energy is allocated to overload a disruptor, it cannot be fired as a non-overloaded one; see (H7.64). As with standard disruptors, it cannot be held, so it must be fired or discharged before the end of the turn. Whether fired or discharged, it could be armed and fired (as a standard or an overloaded bolt) on the next turn. It is not possible to discharge an overloaded disruptor and then (during the same turn) fire a normal loaded with reserve power; see (H7.525).

(E3.52) EFFECT: The warhead strengths of overloaded disruptors are doubled. This is shown on the MASTER WEAPONS CHART.

(E3.53) MAXIMUM RANGE: The maximum range of an overloaded disruptor bolt is eight hexes regardless of the original range of the weapon. This range limitation applies to true range, not to the adjusted range. See (D6.126).

(E3.54) RANGE ZERO, FEEDBACK: Overloaded disruptors can be fired at Range "Zero." The hit probability is one-to-six, insuring a hit (unless other factors, such as electronic warfare, produce a die roll modification). If an overloaded disruptor scores a hit at a true range of "0," two points of damage are scored on the facing shield of the firing ship. This does not reduce the amount of damage done to the target or affect any other ship. Like overloaded photons (E4.43), the damage is caused by the ionized ether trail from the launcher to the target.

(E3.55) RESERVE POWER can be used to overload a disruptor (H7.54).

(E3.6) ADVANCED FIRE CONTROL SYSTEMS

In an attempt to improve the firepower of their ships, the Klingons and other empires have developed several advanced fire-control systems for their disruptors. Both UIMs and DERFACS require active fire control and a lock-on.

(E3.61) UBITRON INTERFACE MODULES can be used to increase the effectiveness of disruptor fire at medium ranges and when firing overloads; see (D6.5) for complete instructions.

(E3.62) DISRUPTOR EXTENDED-RANGE FIRE ATTENUATION CONTROL SYSTEM (DERFACS) was designed to improve the long-range firepower of Klingon ships. All disruptor fire at effective ranges of 23-30 is resolved as if the effective range was 22. Most disruptor charts have a line for this fire control system. DERFACS cannot break down (as the UIM can), but can be destroyed by a hit-and-run raid (D7.8). DERFACS is automatically repaired at no cost between scenarios. This system is available (at no cost) to all disruptor-armed ships with a range of 30 or more in Y168 (Klingon ships Y165, Lyrans Y166).

(E4.0) PHOTON TORPEDOES

Photon torpedoes are carried by Federation ships and certain others. They are considered to be the heavy weapons of the ship, but because they must be armed in advance and cost a considerable amount of energy to hold in the launch tubes if they are not fired immediately, their use is normally restricted to heavy combat situations. A photon-armed ship does not normally keep the torpedoes armed because of the energy requirement to simply hold them in the tubes.

(E4.1) FIRING PHOTON TORPEDOES

Each "PHOTON" box on a Federation ship's SSD represents one photon torpedo launch tube. Each tube is armed and kept track of separately. A given photon torpedo tube cannot be used to arm, hold, or fire more than one photon torpedo at a time. The maximum firing rate for a Federation heavy cruiser, for example, is four torpedoes in each two-turn period.

(E4.11) FIRING: Photon torpedoes are fired in the Direct-Fire Weapons Fire Stage of the Impulse Procedure, and their effect is determined immediately by die roll. There are no counters for photon torpedoes.

(E4.12) HIT: Consult the Photon Torpedo Table below. To determine if a photon torpedo has hit the target, consult the photon torpedo table and look under the effective range. Roll a single die. If the result (as adjusted by electronic warfare or other factors) is between the listed hit numbers (inclusive), the torpedo has hit its target.

EXAMPLE: A die roll of four is within the hit numbers listed (one-to-four) for Range 3, so the torpedo would score a hit at a range of three with a die roll of four. ✯

Range	0-1	2	3-4	5-8	9-12	13-30
Hit (Std)	NA	1-5	1-4	1-3	1-2	1
Damage (S)	NA	8	8	8	8	8
Hit (Prox)	NA	NA	NA	NA	1-4	1-3
Damage (P)	NA	NA	NA	NA	4	4
Hit (OVLD)	1-6	1-5	1-4	1-3	NA	NA
Damage (O)	Varies	Varies	Varies	Varies	NA	NA

(E4.13) DAMAGE: Regardless of range, a photon torpedo does eight hit points of damage if it hits. Exceptions, see (E4.33), (E4.41), and (G13.37).

(E4.14) MINIMUM RANGE: Even when firing without a "lock-on" (where the range would be doubled), photons cannot be fired at a true range of one hex or less. Exception, see overloads (E4.43).

(E4.15) SPECIAL FIRING: Photon torpedoes can be fired in a narrow salvo (E1.6). Overloaded and non-overloaded torpedoes can be combined in a narrow salvo; proximity and non-proximity torpedoes cannot.

(E4.2) OPERATIONS

(E4.21) ARMING: To arm a photon torpedo, two points of warp energy must be allocated to a specific photon torpedo tube on each of two consecutive turns. The second turn may be the turn of firing. The Federation heavy cruiser, which has four photon tubes, would have to expend eight units of warp energy on each of two consecutive turns to fire a full spread of four torpedoes (and more power if overloading).

This arming cycle *must* be two points on each of two turns (2+2); it cannot be done by loading zero or one or three or four points on one turn and the balance on the next, or in any combination on two non-consecutive turns.

(E4.22) HOLDING ARMED TORPEDOES: If the arming of a photon torpedo has been completed on a given turn, and the torpedo is not fired on that turn, then the ship must either discharge the weapon (E1.24) or allocate one unit of energy each turn to hold the torpedo in the tube for each turn until the torpedo is fired (including the turn of

firing). Partially armed photons (those that have received only one turn's arming energy, possibly including some overload energy) cannot be held.

EXAMPLE: On Turn #5, two units of energy are allocated to a photon tube. On Turn #6, two more units are allocated, and the torpedo is considered armed from the start of the turn. If two units of energy had NOT been allocated, the torpedo would have been discharged automatically (E1.24), and arming must begin again. Assuming that arming was completed during the Energy Allocation Phase of Turn #6, the torpedo could have been fired during any impulse of Turn #6. If not, then during the Energy Allocation Phase of Turn #7, the ship must either expend one unit of energy to hold the torpedo in the tube or discharge the torpedo. If not fired on Turn #7, another unit of energy must be allocated on Turn #8 to hold the torpedo in the tube, or again the torpedo would have to be ejected (E1.24).

(E4.23) ENERGY REQUIREMENT: The four points of energy to arm a photon torpedo (and any used to overload it) MUST all come from the warp engines and/or warp reactors. The power to hold it may come from any source.

(E4.3) PROXIMITY FUSE *(Advanced)*

Photon torpedoes may be fitted with a proximity fuse. This increases their chance of a hit at longer range but reduces their effectiveness.

(E4.31) RECORDS: A photon torpedo that is to carry a proximity warhead must be recorded as such when the second turn's arming is recorded, or when holding energy is paid on a subsequent turn. This is done by marking a "P" in the space on the Energy Allocation Form for the turn on which the proximity fuse is fitted. It must be announced as such when fired. There is no cost (energy, victory points, or expenditure of supplies) for this type of fuse. The proximity fuse can *ONLY* be installed *or* removed during an Energy Allocation Phase.

(E4.32) EFFECT, MINIMUM RANGE: Proximity-fused photon torpedoes automatically miss at all true ranges (not effective ranges) less than nine hexes. At ranges of nine or more hexes, two is subtracted from the die roll when rolling to determine if the torpedo has hit. Note that many photon torpedo tables have a "Proximity" line which has this die roll adjustment already built in. Example: A proximity torpedo would hit on a die roll of one-to-three (not one-to-five) at Range 25; a normal torpedo would hit on a die roll of one.

(E4.33) WARHEAD: The strength of a proximity-fused photon torpedo is four instead of the normal eight. This accounts more for the fact that the weapon has exploded some distance from the target than any actual change in warhead yield.

(E4.34) ARMING: Proximity-fused photons that have just been fully charged or are being held could be changed to normal types, and vice-versa, during the Energy Allocation Phase (E4.31). There is no energy cost for the changeover. Note, however, that proximity-fused photons cannot be overloaded. It is possible to convert a proximity-fused torpedo to an overloaded type. Simply remove the proximity fuse during the Energy Allocation Phase and then (in that same phase or a later one) add overload energy by allocation or (later in the turn) by reserve power (H7.54).

It is not possible to convert an overloaded torpedo to a proximity-fused type because there is no way to "un-overload" the weapon once it is overloaded. It is not possible to fire a photon torpedo with both overload and proximity functions.

(E4.4) OVERLOADS *(Advanced)*

Ships that carry photon torpedoes have the option of "overloading" them. This involves using extra energy to arm them. This increases their power, but limits their range.

(E4.41) LEVELS OF OVERLOAD: Photon torpedoes can be overloaded by up to 100%.

(E4.411) During the arming process for a normal photon torpedo, a total of four units of warp energy is applied to charging the torpedo (two on each of two consecutive turns). If additional warp energy (up to four points in increments of one-half point) is applied during the two-turn arming process or while the torpedo is being held in the tube, this energy has the effect of overloading the torpedo. This overload energy may be applied during the first and/or second turn of arming and/or any later turn in which a loaded torpedo is held. Note that while overload energy (up to the maximum of four points) can be applied in the first turn of arming, this irrevocably commits the torpedo to be an overloaded torpedo (unless it is discharged). Discharged is defined in (E1.24).

The table below shows some of the legal possibilities for arming and overloading photon torpedoes.

TORPEDO	TURN #1	TURN #2
#1	2+0	2+4
#2	2+2	2+2
#3	2+4	2+0
#4	2+1	2+3

All of the above would produce a fully overloaded torpedo. The energy is shown as Standard+Overload. The overload energy in any of the examples could be reduced (and possibly replaced during allocation of Turn #3 or later or with reserve power). The overload energy can be added in half-point increments using fractional accounting (B3.2).

(E4.412) Energy paid to hold the torpedo in the tube (E4.44) does not count for overloading. If a torpedo is completed on one turn and overloaded during the Energy Allocation Phase of the next turn, holding cost must be paid on that turn.

(E4.413) The strength of an overloaded torpedo is determined as follows:

Total Energy	Warhead Strength	Feedback	Hold Cost	
			Standard	Fractional
4.5	9	1	2	1-1/4
5	10	1	2	1-1/4
5.5	11	2	2	1-1/2
6	12	2	2	1-1/2
6.5	13	3	2	1-3/4
7	14	3	2	1-3/4
7.5	15	4	2	2
8	16	4	2	2

(E4.414) Photon torpedo overloads use half points of warp power for incremental overloads (see above). If the warhead is armed with a fractional point of warp power less than 0.5, the warhead is treated as having been armed to the lower level, e.g., if armed with 5.20 points of warp power it is treated as if it were armed with five points of warp power. If it were armed with 5.66 points of warp power, it would be treated as if it were armed with 5.5 points of warp power. Such arming levels will usually happen as a result of contingent allocation (H7.6). If a photon torpedo is armed with any overload energy, it is considered to be an overloaded photon for all purposes (i.e., it cannot be fired as a standard or proximity photon). In addition, if not armed with at least 4.5 points of warp power it cannot be fired as an overload. In all cases where less than 0.5 points of warp power are used to overload the photon torpedo, the holding cost and feedback of that torpedo is the next higher, i.e., a torpedo armed with 5.20 points of warp power would require 1.5 points of holding energy and would do two points of feedback damage if fired at Range 1 or less.

(E4.42) MAXIMUM RANGE: The maximum range of an overloaded photon torpedo is eight hexes. The weapon is unstable and will dissipate at that point. The range limitation applies to true range, not to the effective range.

(E4.43) FEEDBACK DAMAGE: Overloaded photon torpedoes may be fired at a true range of zero or one. At these ranges, the hit probability is one-to-six. Note that electronic warfare (D6.3) and other conditions might still result in a miss.

(E4.431) If an overloaded photon torpedo scores a hit at a range of zero or one, damage is scored on the facing shield of the firing ship. The amount of damage is shown in the "feedback" column above. The ionized ether trail from the firing ship to the target (created by the passage of the torpedoes) conducts some of the blast back to the

firing ship. If the weapon misses the target, there is no damage to the firing ship.
(E4.432) The feedback damage is not subtracted from the warhead strength.
(E4.433) No other ship, regardless of its location proximate to the firing or target ship, takes damage as a result of this effect.

(E4.44) HOLDING: Overloaded photons may be held in the tubes. The holding cost is shown in the chart in (E4.413). The holding energy does not have to be warp energy.

EXAMPLES: Torpedo #1 was armed to normal strength during Turns #1 and #2 but not fired. During the Energy Allocation Phase of Turn #3, one point of holding energy was paid. Later in Turn #3, reserve power was added to create an overload. It was not necessary to pay additional holding energy for Turn #3, but if the torpedo is not fired on Turn #3 holding energy at the overload level must be paid during the Energy Allocation Phase on Turn #4.

Torpedo #2 was armed during Turns #1 and #2 but not fired. During the Energy Allocation Phase of Turn #3, two points of overload energy was applied, and the holding cost of 1.0 was also paid. If not fired on Turn #3, holding energy of 1.5 points must be paid during the Energy Allocation Phase on Turn #4.

(E4.45) OVERLOADING WITH RESERVE POWER: A photon that has completed arming could be overloaded during the turn using reserve power (H7.54). However, this must be reserve warp energy (H7.48). This could be done at the point of firing.

(E5.0) ANTI-DRONES

Some ships carry a special drone rack that is loaded with short-range hyper-velocity missiles used to destroy incoming drones. This is known as an "Anti-Drone Defense System" (ADD).

An anti-drone is *not* a drone and is not treated as such; it is a direct-fire weapon. Anti-drone systems are, however, destroyed on "drone" hits and can fire type-VI drones, causing no end of confusion on this point.

Anti-drones came into service in Y140. Ships prior to that date used type-E drone racks for this defensive function at no change in BPV.

(E5.1) ADD RACKS

(E5.11) SSD: Each ADD box on the SSD represents one ADD rack.

(E5.12) AMMUNITION: The anti-drone rack contains six anti-drones; once this ammunition is exhausted, the rack cannot be fired again until reloaded. (Some ships have larger magazines. If so, this is stated in the specific rules on that ship.)

(E5.13) FIRING: An ADD rack can fire one ADD per impulse. All ADDs have 360° firing arcs.

(E5.14) LOCK-ON REQUIRED: If a ship does not have lock-on, its ADD cannot fire.

(E5.15) ELECTRONIC WARFARE: Anti-drones ignore EW effects. Note that they can be affected by Erratic Maneuvers (C10.49) performed by the ship they are installed on.

(E5.16) SCANNERS: The scanner (D6.2) factor (usually zero until damage is scored on the ship) is added to the die roll, not the range, for ADDs.

(E5.2) OPERATION

Anti-drones are direct-fire weapons normally used to fire at drones. Fire is resolved by the ANTI-DRONE PROBABILITY OF HIT CHART (E5.6) below.

(E5.21) PROCEDURE: The player firing the ADD designates the drone that is the target and rolls one die. If the result is within the range of hit probabilities for that range on the chart, the ADD has hit the target. A "hit" by an ADD automatically destroys the drone at which it was fired regardless of the type of drone, armor modules, etc.

(E5.3) ALTERNATIVE TARGETS

(E5.31) SHUTTLES: An ADD can be fired at shuttles (which includes fighters), but if a hit is scored, a die must be rolled. The result is the number of damage points scored on the shuttle. The ADD does not actually have an "explosive warhead" as a drone would (it uses a cluster of kinetic pellets released just prior to expected impact), and a shuttle, being much larger than a drone, can (possibly) survive the damage it causes. ADDs fire at a DEFSAT as against a shuttle.

(E5.32) OTHER TARGETS: The ADD warhead is too small to score even a single damage point on a ship, base, PF, asteroid, ESG field, or anything larger than a shuttle or drone. An ADD cannot be fired through an ESG field and cannot damage that field.

(E5.33) MINES: Anti-drones can be fired at mines (scoring damage as against a shuttle) under the standard restrictions (Range 1, held in tractor, roll for number of damage points), but this is not recommended as the mine will "trigger" and explode OR if a captor will fire/launch on the next direct-fire or seeking weapons launch phase as appropriate.

(E5.4) ALTERNATIVE AMMUNITION

(E5.41) DOGFIGHT DRONES: Ships may load type-VI drones in the ADD launcher. These can be mixed with the anti-drones on a one-for-one basis, paying 0.25 BPV points for each such substitution (plus any speed-cost adjustments for the type-VI drones) as a Commander's Option (S3.2). Alternatively, type-VI drones on the ship for some other reason (fighter storage, extras bought as Commander's Options, type-E racks, etc.) could be used as reloads in the ADD. These are targeted by the ADD's computer and can only be launched if the target is within six hexes of the firing ship.

(E5.42) FIRING: A single ADD can only launch one type-VI drone per turn and cannot launch type-VI drones and ADDs in the same turn. There is an eight-impulse delay between firings when switching modes between turns, similar to that for the G-rack.

(E5.43) EM RESTRICTION: ADD racks cannot launch type-VI drones while the ship is doing EM.

(E5.5) TYPES OF ANTI-DRONE RACKS

There are four types of anti-drone racks:

(E5.51) ADD-6: This is the original type, holding six rounds of ADD ammunition.

(E5.52) ADD-12: This is the improved version, seen on newer ships and base stations, which holds twelve rounds of ammunition. Virtually all ADD-6s were converted to ADD-12s in the Y175 refits.

(E5.53) ADD-30: This is the large version used on starbases and battle stations (FD3.86). It has five six-round magazines and can draw from any one magazine.

(E5.54) G-RACK: This is a special drone rack that can fire anti-drones, type-VI drones, or standard drones. Refer to rule (FD3.7) for information on this rack.

(E5.6) ANTI-DRONE PROBABILITY OF HIT CHART

(E5.61) CHART: Roll one die for each ADD shot. Look under the range column to determine if the shot hit or missed the target.

RANGE	0	1	2	3	4+
HIT	—	1 – 2	1 – 3	1 – 4	—
MISS	1 – 6	3 – 6	4 – 6	5 – 6	1 – 6

(E5.62) MODIFIERS applied to the die roll include:
Erratic Maneuvers: +1 shift if the firing ship is performing EM; see (C10.49).
Scanners: The scanner factor (E5.16) is added to the die roll.
Officers: A legendary weapons officer subtracts one from the die roll; see (G22.7).
Crew: Poor crew adds one to the die roll (G21.111); outstanding crew subtracts one (G21.211).
Cumulative: Outstanding crew and legendary officer modifiers are not cumulative.

(E5.7) RELOADING

(E5.71) RELOADS: All ships equipped with ADD racks have two complete sets of reloads for the rack. (While the Y175 refit increased the number of reloads from twelve to 24, this was a function of the larger rack.) If type-VI drones are bought for some of the "slots" on the ADD under (E5.4), a proportional share of the reloads are also type-VI drones unless the owning player voluntarily forgoes this privilege.

(E5.72) G-RACKS: Ships firing anti-drones from their type-G drone racks reload them by (FD2.42). Anti-drones are considered 1/2-space items for reloading purposes.

(E5.73) NO SP or MW: Anti-drones cannot be placed in a SP shuttle [exception: (FD7.38)] or MW drone. See however (FD15.0).

(E5.74) RELOADING: One, two, three, or four anti-drones can be loaded on each ADD rack each turn, but only if the rack is not fired during that turn. This reloading is accomplished automatically if the rack does not fire. If the rack is fired, reloading is cancelled. If a player does not want the rack to be reloaded automatically (perhaps because he wants to use the ADDs for another purpose) he can voluntarily forego the automatic reloading, but must make a record that he has done so during Energy Allocation. He can on a subsequent turn resume the automatic loading, but must record this change during Energy Allocation.

ADDs never automatically reload in type-G drone racks, the loading of type-G drone racks must always be planned.

Type-VI drones are loaded into an ADD under the provisions of (FD2.42), which requires taking the rack out of service for a complete turn. This is required even if some of the original rounds in the ADD were filled with type-VI drones.

(E6.0) MONSTER CLOSE-IN DEFENSE SYSTEM (MCIDS)

Some monsters (see the "SM" scenario section) have a special close-in defense system to protect themselves from drones and other small dangerous targets.

(E6.1) PROCEDURE AGAINST DRONES

To resolve the fire of the MCID, roll a single die and find the result on the chart below:

DIE ROLL	EFFECT
1-4	Drone intercepted and destroyed.
5-6	Miss; Drone has not been destroyed or damaged.

(E6.2) PROCEDURE AGAINST SHUTTLES

To resolve fire of the MCID against shuttles (including fighters), roll a single die and find the result on the chart below:

DIE ROLL	EFFECT
1-2	Shuttle destroyed.
3-4	Shuttle crippled; a crippled shuttle is destroyed.
5-6	Shuttle undamaged.

Crippling is defined as receiving the number of additional damage points required to cripple the shuttle (J1.33). This applies in the case of an undamaged or a damaged-but-not-crippled shuttle.

(E6.3) LIMITATIONS

(E6.31) FIRING: The monster close-in defense system can be used up to three times per impulse (at any type or types of acceptable targets) on targets within three hexes. The MCIDS cannot fire at a single target more than once per impulse. The MCIDS has an unlimited supply of ammunition.

(E6.32) RESTRICTIONS: It is not affected by any other systems or effects, except that it cannot fire through webs, black holes, pulsars, stars, or planets. It can fire through atmospheres and into hexes containing small moons or asteroids. MCIDS is not an aegis system and cannot identify drones.

(E6.33) REACTION: If a monster enters a hex containing a shuttle or seeking weapon by reactive movement [e.g., the Moray Eel (SM3.45)], MCIDS will fire on those units immediately, before they can strike the monster. It will do this in every hex it enters during reactive movement. It will not do this during normal movement.

(E6.4) ALLOCATION

(E6.41) PLAYER: If the monster is operated by a player, he may designate the targets of the three firings per impulse of the MCIDS.

(E6.42) AUTOMATIC: If the monster is operated by automatic rules, the three firings per impulse are directed at the "most threatening targets." These are selected in the following order:
1. Seeking weapons that will hit the monster on the next impulse, in order of warhead strength. This includes the warhead strength of drones and suicide shuttles. The monster will know the true warhead strength using its "sixth sense," and will therefore ignore PPTs, slug drones, and dummy shuttles. Player-controlled monsters cannot do this.
2. Fighters within range in order of their direct-firepower output (assuming the best die rolls, the current range, and accounting for which weapons are available to fire).
3. Seeking weapons within range, in the order established by #1 above (SP or MW total warhead strength).

If several targets have equal priority, select one randomly.

(E6.43) LIMITED TARGETS: The MCID system cannot be used against any target not specifically listed here. For example, it cannot fire at mines, ships, asteroids, other monsters, or planets.

(E6.5) PROCEDURE AGAINST PLASMA TORPEDOES

(E6.51) PROCEDURE: The MCIDs system can be used against plasma torpedoes. To resolve this, use the following table:

DIE ROLL	EFFECT
1–2	Warhead reduced by 35 points.
3–4	Warhead reduced by 25 points.
5–6	Warhead reduced by 10 points

(E6.52) UNACCEPTED TARGETS: MCIDS ignores pseudo-plasma torpedoes, dummy-seeking shuttles, slug drones, and seeking weapons not targeted on itself. The monster's "sixth sense" can distinguish them. The monster cannot communicate this information to another player except by the act of not firing or by allowing itself to be hit.

(E7.0) FUSION BEAMS

The fusion beam is the primary armament of many ships in the Hydran Fleet. Its power is derived from a stream of excited tritium nuclei that are projected to the target via a trans-light warp. The nuclei are then fused into helium, releasing tremendous energy at the instant of contact. The weapon is short-ranged but extremely powerful. The standard Hydran tactic is to move rapidly toward the target, leaving the fusion beams uncharged to save power for more speed. The Hydran ship tries to end the turn near the target, then arms and fires its fusion beams at the start of the next turn.

(E7.1) DESIGNATION

(E7.11) SSD: Each box on the SSD represents a single fusion beam generator. Each such generator is recorded separately.

(E7.12) DESTRUCTION: Hydran fusion beams are destroyed on "torp" hits.

(E7.2) ARMING PROCEDURE

(E7.21) ENERGY: Charging a fusion beam requires two points of power from any source during a single turn.

(E7.22) COOLING: If the weapon is fired, it requires one turn of cooling and cannot be armed or fired during the game turn after the turn on which it was fired; see (E7.412). If the weapon is merely discharged (E1.24), cooling is not required (so long as it was not overloaded).

If the ship was in stasis, see (G16.724). If the beam was overloaded, see (E7.412).

EXAMPLE: If a fusion beam is fired during any impulse of Turn #1 (no matter whether #1 or #32), it cannot be armed or fired on any impulse of Turn #2.

(E7.23) HOLDING: When first deployed, armed fusion beams could not be held in an armed state, but had to be fired or discharged (E1.24) shortly after (i.e. on the turn that) they were armed. If the weapon is not fired on the turn it is armed, the energy is lost, but the weapon does not need to cool and can be armed and fired during the next turn.

In Y168, the Hydrans began to refit some of their units so that they could hold fusion beams (E7.5).

(E7.24) RESERVE POWER: Fusion beams can be fired with reserve power (H7.52).

Fusion beams can be partially armed with allocated power and then completed at (or prior to) the point of firing with contingent reserve power (H7.6). If this power is not provided and/or the weapon is not fired, the power will be lost at the end of the turn unless the beam can be held (E7.5). In that case, the player would have the choice of paying the full holding cost and maintaining the partial charge in the weapon or of not paying the holding cost and losing any such energy. See also (H7.523) and (E7.44).

(E7.3) FIRING FUSION BEAMS

(E7.31) FUSION BEAM TABLE: Fusion beam fire is resolved on the FUSION BEAM TABLE, which is found on the SSDs of ships armed with fusion beams and is shown below.

DIE ROLL	RANGE (Hexes)					
	0	1	2	3–10	11–15	16–24
1	13	8	6	4	3	2
2	11	8	5	3	2	1
3	10	7	4	2	1	0
4	9	6	3	1	1	0
5	8	5	3	1	0	0
6	8	4	2	0	0	0

(E7.32) PROCEDURE: Determine the range to the target. Roll one die, and cross-index the die roll result with the range column. The result is the number of damage points scored.

(E7.4) OVERLOADS *(ADVANCED)*

(E7.41) ENERGY: Fusion beams can be overloaded. To do this, four units of energy are used to charge the beam. The damage points scored are then increased by 50% (round fractions down and calculate each beam separately, e.g. thirteen becomes nineteen). The table below reflects this 50% increase in damage output. See (H7.64) for partial overloads.

OVERLOADED FUSION BEAM TABLE

DIE ROLL	RANGE (Hexes)			
	0	1	2	3–8
1	19	12	9	6
2	16	12	7	4
3	15	10	6	3
4	13	9	4	1
5	12	7	4	1
6	12	6	3	0

(E7.411) The maximum range of an overloaded fusion beam is eight hexes. See (D6.126).
(E7.412) An overloaded fusion beam must be fired or discharged; it cannot be held (E7.52). If fired or discharged, it must cool for one turn (E7.22).

(E7.42) SUICIDE OVERLOAD: Fusion beams may operate as "suicide overloads." In this mode, seven units of energy are used to charge the beam. When fired, the beam scores double the damage points shown on the basic chart (E7.31); this increased damage is shown in the chart below.

SUICIDE OVERLOADED FUSION BEAM TABLE

DIE ROLL	RANGE (Hexes)			
	0	1	2	3–8
1	26	16	12	8
2	22	16	10	6
3	20	14	8	4
4	18	12	6	2
5	16	10	6	2
6	16	8	4	0

Players must use the data provided on this chart (and the SSDs) rather than doubling the results for themselves.

(E7.421) A fusion beam with a suicide overload must be fired or discharged (E7.412); it cannot be held (E7.52). A fusion beam is destroyed when fired or discharged in this manner, and one additional point of internal damage is scored on the firing ship for each beam fired in this manner, using the Damage Allocation Chart. This damage point is added to any volley of damage from direct-fire weapons scored during the same impulse; if there is no volley, the damage point (or points if more than one was fired) is resolved independently. Damage to phasers is not restricted by (D4.321) phaser damage direction.
(E7.422) The maximum range of a suicide overloaded fusion beam is eight hexes; see (D6.126).

(E7.43) RESERVE POWER can be used to overload (or suicide overload) fusion beams at the instant of firing or at any previous point in the turn.

(E7.44) IRREVERSIBILITY: Once the weapon is overloaded or suicide overloaded (even partially), it cannot be fired as a non-overloaded weapon, unless the existing overload charge is first fired or discharged according to the rules.

(E7.441) A weapon for which only part of the overload energy has been provided cannot be fired at all, unless the remainder of the overload energy is provided (from reserve power).
(E7.442) A fusion beam with more than four points of power but less than seven (i.e. partially suicide overloaded) can be fired as a normal overloaded fusion beam. It will still be treated as a suicide overloaded fusion beam for purposes of the consequences of (E7.421).

(E7.5) HOLDING FUSION BEAMS

The Hydrans developed a system capable of holding an armed fusion beam in Y168 and had installed it on virtually all fusion-armed ships by the time the Hydrans entered the General War in Y169. Some sources believe that their entry into the General War was, in fact, delayed by the need to install this technology. There is no cost for this refit.

(E7.51) COST: A fusion beam which remains unfired at the end of a turn can be held through the next turn (or any number of subsequent turns) for a cost of one point of energy (per turn). This power must be allocated on the turn in question; it cannot be reserve power. If the holding energy is not allocated, the weapon is discharged automatically. Holding energy does not count in any way as arming energy.

(E7.52) OVERLOADS: Overloaded fusion beams cannot be held, but held fusion beams can be overloaded. The overload energy can be allocated or reserve power. See (E7.412).

(E7.53) RESERVE POWER: Fusion beams which are held (as with those on the turn of arming) can be overloaded with reserve power (two reserve points for a standard overload, five for a suicide overload), but note that they must be fired or discharged on the turn that the overload energy is applied as per (E7.52). Note that discharging a suicide overload will destroy the fusion beam and cause internal damage (E7.421).

(E7.54) SIZE-4+ SHIPS ONLY: This system applies to ships (including bases) of size class 4 or larger. It does not apply to (cannot be installed on) PFs (including interceptors). Fusion-armed fighters use a system similar to this, but this is covered in (J4.83).

(E8.0) MAULERS

The mauler is a beam of intense directed energy. Because of the immense size of the power accumulators, the weapon is, almost literally, the same as the ship. Originally a Romulan weapon, it was eventually copied by their allies, the Klingons and Lyrans.

The Andromedans use a weapon that is functionally similar.

(E8.1) DESIGNATION

(E8.11) SSD: The mauler weapon is shown on the SSD only as a solid black line and smaller lines connecting batteries and power systems to the mauler weapon. There is no box on the SSD for the mauler, and the weapon itself cannot be destroyed unless the ship is destroyed. Two mauler arrows connected by a mauler power grid line (e.g., D6M) are no different than a single mauler arrow. On some ships (e.g., SparrowHawk-F), there are two arrows and some power sources can only fire through a given arrow, but the two arrows (if fired simultaneously) are resolved as a single firing in any case.

(E8.12) FIRING RATE: The mauler may be fired once in each impulse, subject to available energy (E8.3). Note specifically (E8.323).

(E8.13) DAMAGE: A damage point allocated to an "any weapon" hit (on the L-Column of the Damage Allocation Chart) can be scored (at the owning player's option) on any power system of that ship that is tied into the mauler, including those not used on that turn. The mauler itself cannot be destroyed or damaged.

(E8.14) OPTIONAL WEAPON MOUNTS: Maulers cannot be used in optional weapons mounts (G15.4), (G33.1), and (R55.1A).

(E8.15) FIRE CONTROL: A mauler cannot be fired under passive fire control (D6.623), or low-power fire control (D6.72), or without a lock-on (D6.124) to its target.

(E8.2) FIRING PROCEDURE

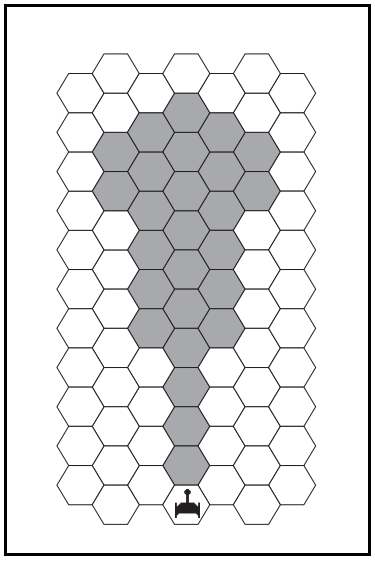
(E8.21) ENERGY: The mauler is fired by discharging energy into it. The amount of damage scored by the mauler is proportional to the energy discharged into it that impulse and the range (E8.22). The energy is applied at the instant of firing.

(E8.22) DAMAGE: The amount of damage scored on the target ship is adjusted by the range from the mauler ship to its target. This is shown on the chart below. Unless there is a die roll adjustment (E8.24), no die roll is required and the weapon automatically hits its target. When the weapon hits its target, it scores the amount of damage indicated on the chart below.

MAULER RANGE ADJUSTMENT CHART	
RANGE	**DAMAGE SCORED**
0-1	Double the amount of energy discharged
2-5	The amount of energy discharged
6-10	One-half of the amount of energy discharged (round fractions down)

EXAMPLE: The mauler is fired with 24 units of power discharged into it. If the target is at a range of one, 48 damage points are scored. If the target is at a range of four, 24 points of damage will be scored. If the target is at a range of eight, twelve points of damage will be scored.
(E8.221) Maulers cannot damage plasma torpedoes (FP1.6).
(E8.222) See (G13.344) when firing at a cloaked ship.
(E8.223) Maulers always use true range (D1.4).
(E8.224) Maulers cannot fire when the ship is using Erratic Maneuvers; see (C10.52). Maulers can fire at a ship using EM.

(E8.23) FIRING ARC: The field of fire of the mauler is extremely limited. The mauler may only be fired into the hexes shaded on the illustration at right. The weapon is a relatively narrow beam, and each shot is fired at a single target within its field of fire. See also (E8.27).

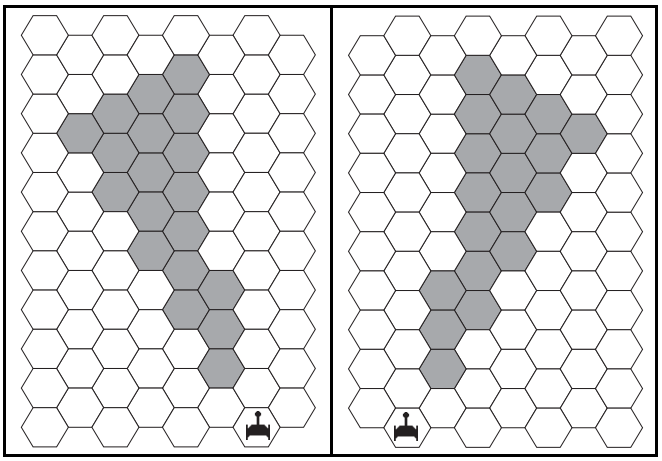


(E8.24) HIT PROBABILITY: A mauler is considered to have a hit probability of two-to-twelve (two dice, any result less than two is considered to be two; any result more than twelve is considered to be a miss) for purposes of EW and other die roll adjustments. See (E1.823).

(E8.25) RANGE ZERO: A mauler can fire at a range of zero; this is resolved as if it were at a range of one. There is no feedback damage. The target must be in front of the mauler ship; i.e., it must have entered the hex from a hex directly in front of the mauler or the mauler must have entered the target hex by forward movement (not sideslip) with (if using directed turn modes) neutral turn mode accumulation.

(E8.26) INSTANTANEOUS FIRE: The mauler beam is only operated for an instant. It does not remain on and cannot be slashed across the board (a` la a "light saber") by turning the ship.

(E8.27) ALTERNATIVE FIRING ARCS: When using the directed turn mode maneuver rules in (C3.8), the mauler ship can use the alternative firing arcs below. When the ship is accumulating left turn mode points, it MUST use the left arc; when the ship is accumulating right turn mode points, it MUST use the right arc. When in a neutral (straight ahead) direction, the ship uses the normal arcs in (E8.23). Note that while accumulating right or left turn mode points, the mauler cannot engage a target at a range of zero or one.



(E8.28) SHOCK: Firing a mauler subjects the firing ship to shock damage effects; see (D23.24).

(E8.3) POWER FOR MAULER OPERATIONS

(E8.31) BATTERIES: The bulk of a mauler ship is filled with batteries. The batteries are divided into distinct groups of one or more individual batteries. The amount of power held by each group must be recorded separately. Each group is numbered to facilitate record keeping. Not all of the batteries in a given group need be charged, and some of them may have been discharged previously for non-mauler functions.

(E8.32) GROUPS: When the mauler weapon is fired, the owning player may discharge as many groups of batteries into the weapon as he wishes.
(E8.321) Batteries must be discharged in complete groups; all of the batteries in a group must discharge all of their power, including fractional points of power. All fractional damage points are ignored; none are rounded upwards. A half-point of power will do one damage point at Range 0 or 1.
(E8.322) The batteries do not have to be recorded as "to be discharged" on the Energy Allocation Form, but can be used as desired. Batteries can be used on the turn they were charged.
(E8.323) No one battery group can be used for the (or any) mauler twice (presumably on two consecutive turns) within a period of 1/4 turn.

(E8.33) OTHER POWER: The engines and reactors of a mauler ship may be coupled directly to the mauler. (Note that power allocated to batteries and used on the turn it is allocated comes from the batteries, not the engines or reactors.)
(E8.331) Any energy discharged by these systems into the mauler must have been designated for that purpose on the Energy Allocation Form.
(E8.332) The system supplying the power is damaged by the mauler (does not apply to batteries). Boxes of the supplying system equal to one-half (round fractions up) of the power supplied must be marked destroyed immediately. Note that batteries used for the mauler are not damaged.
(E8.333) All power supplied by non-battery systems must be discharged on the same impulse.
(E8.334) Power allocated directly to the mauler but not used is simply lost and the generating systems are not damaged in any way.

(E8.34) USE OF BATTERIES: There is no restriction against using power from the batteries on a mauler ship for non-mauler systems unless specifically stated in the individual ship description. Batteries need not be discharged in groups for non-mauler purposes.

(E8.4) INTEGRATED EXAMPLE OF MAULER OPERATIONS

The Romulan player commanding a Falcon-class ship (R4.9) desires to fire his mauler to score at least fifteen damage points on the target, and he notes that at a range of four each unit of power will result in one point of damage. He discharges battery group #4 (of ten completely charged batteries), battery group #5 (also of ten batteries, but holding only four units of power), and group #8 (which contains only a single battery) for a total of fifteen. Note, however, that if he fires on Impulse #26 or later, he would not be able to use those battery groups on Impulse #1 of the next turn (and possibly some later impulses, due to the eight-impulse delay).

Later, he wishes to fire again but has no battery power. He had previously allocated ten units of power from his warp engines for use in the mauler. If he does not use this power, he is not penalized (although the power is lost), but if this power is used to fire the mauler, he must score five points of damage on his warp engines.

(E8.5) ANDROMEDAN MAULERS

Certain Andromedan ships, such as the Terminator (R10.6), are equipped with maulers. These use the standard mauler rules, as above, with the exceptions, additions, and modifications below.

The Andromedans are in section (R10.0) of *Module C2*.

See specifically (D1.57), which includes "leak" damage.

(E8.51) PA PANELS: Andromedan maulers can draw energy directly from their PA panels (D10.414). This is treated as power from batteries.
(E8.511) The amount of energy each ship can draw from its panels during each turn (or during any period of one-quarter turn) is established in the rule for that ship. [For example, the Terminator (R10.6) can use twenty points of power.] This is accomplished by adjusting the bookkeeping entries at the time of firing.
(E8.512) This power can all be drawn in a single impulse, or it can be drawn a few points at a time on several impulses. This forms an exception to (E8.333). See (E8.321) for fractional power points.
(E8.513) There is no requirement to withdraw all of the power from a given panel or from any particular panel.
(E8.514) Any power that is drawn from the PA panels during any single impulse must be fired by the mauler on that same impulse.
(E8.515) Power involuntarily released from PA panels [due to lowering their level, damage in combat, etc. (D10.42)] is not regarded as power "drawn from" the panels and cannot be used for the mauler. Involuntarily released power picked up by batteries can be used for the mauler on a later impulse. See (E8.323).
(E8.516) Power allocated directly to the mauler system rather than to the batteries and not used is assumed to have never been generated as per (D10.74).
(E8.517) Power drawn from the panels is considered not to be present when resolving the effects of enemy direct-fire weapons striking those same panels during the same Direct-Fire Weapons Segment. Power added to the panels by direct-fire weapons cannot be transferred to the mauler system and fired on the same Direct-Fire Weapons Segment.

(E8.52) BATTERIES: Each battery on an Andromedan ship holds five points of power; see (D10.55). Each battery on an Andromedan mauler counts as a separate group of batteries for mauler purposes; see (E8.31) and (E8.32).

(E9.0) TRACTOR-REPULSOR BEAMS

The TR beam operates by very rapidly alternating traction and repulsion forces in milliseconds-long bursts. The target is literally shaken to pieces. The TR beam is used exclusively by the Andromedans. No other empire has been able to discover the technology required to operate it, even when in possession of captured examples. Contrary to the original analysis of the data (and earlier editions of *Star Fleet Battles)*, there are two different types of TR beams. The original (and larger) of the two is used on their motherships. The smaller version is used on satellite ships.

(E9.1) DESIGNATION

(E9.11) SSD: Each TR box on the SSD represents one weapon, each of which operates separately. The boxes are designated TRH or TRL; see (E9.13).

(E9.12) DESTRUCTION: TR beams are destroyed on "torpedo" hits. Any energy in a TR beam when it is destroyed is lost, not released.

(E9.13) TYPE: The larger (mothership) TR beam, the TR-Heavy, is designated TRH. The smaller (satellite ship) TR beam, the TR-Light, is designated TRL. The designation TR applies to both types, much as "phaser" applies to both a phaser-3 and a phaser-4. A TRH can be "hastily repaired" as a TRL; see (G17.512).

(E9.2) ARMING PROCEDURE

(E9.21) ENERGY: The two types of TR beams use the same procedure, but require different amounts of energy. The energy to fire a TR can come from any source.

(E9.211) To arm a TRH, three points of energy must be allocated for each of two consecutive turns. (This cannot be 4+2 or 2+4) The weapon may be fired on the second turn. It must be fired as a TRH; it cannot be fired as a TRL to hold energy in the TR for later firings.

(E9.212) To arm a TRL, two points of energy must be allocated for each of two consecutive turns. The weapon may be fired on the second turn.

(E9.213) A TRH can be armed and fired as a TRL, but a TRL cannot be armed or fired as a TRH.

(E9.2131) If a TRH is armed with three points of energy on the first turn, it can be armed with three points on the second turn (and fired as a TRH) or with two points (and fired as a TRL).

(E9.2132) If a TRH is armed with two points of energy on the first turn of arming, it can be armed with two or three points on the second turn of arming, but would be fired as a TRL in either case. [The only reason for using three points would be if the owner planned to use rolling delay (E9.22), in which case that second turn (with three points) would become the first turn of a new arming cycle. Or perhaps the Andromedan player simply wanted to waste a point of energy.]

(E9.2133) When the weapon status allows prior arming of weapons, a TRH can be loaded as a TRH or TRL at the option of the owning player.

(E9.2134) One point of reserve power could be added to a TRH that had been allocated only two points of power on that turn, effectively changing that turn into a TRH arming turn. There is no delay caused by the application of reserve power to upgrade a TRL loading to TRH. Even if the point of reserve power was applied on Impulse #32 of a given turn, the weapon could complete loading during the subsequent Energy Allocation Phase and be fired on Impulse #1 as a TRH. Note that if the weapon begins arming with reserve power, the quarter turn delay (H7.532) applies.

(E9.214) Energy for the second turn must be allocated; it cannot be reserve power. If no power is allocated on the second turn, energy from the first turn of arming is lost. If a TRH that had been armed with three points on the first turn was armed with only two on the second, it could use reserve power for the third point (E9.2134) to fire as a full TRH.

(E9.22) DELAY: TR beams cannot be held in a loaded condition. They use a form of rolling delay, similar to that in (FP1.91). If not fired by the end of the second turn of arming, a TR beam loses the energy from the first turn of arming and that second turn becomes the first turn of a new arming cycle.

EXAMPLE: A TRH is armed with three points of power on Turn #1 and three more on Turn #2, but no target has become available by the end of Turn #2. The energy applied on Turn #1 is lost, and the three points from Turn #2 remain. The owning player can apply two points of energy during allocation on Turn #3 and fire it as a TRL or three points of energy and fire it as a TRH. If no energy is allocated on Turn #3, the Turn #2 energy is also lost.

(E9.23) RELOADING: The weapon cannot begin arming again on the turn it is fired. It can use (H7.53).

(E9.3) FIRING PROCEDURE

(E9.31) IMPULSE: TR beams may be fired during the Direct-Fire Step of the Direct-Fire Weapons Stage 6D2 of any impulse.

(E9.32) PROCEDURE: Damage is resolved on the TRACTOR-REPULSOR BEAM TABLES (below). The procedure is as follows: Determine the range to the target. Roll one die [which may be adjusted, see (E1.8)], and cross-index the die roll result with the range column. The result is the number of damage points scored.

(E9.33) MAXIMUM RANGE: The maximum range of a TR beam is 25 hexes.

(E9.34) OVERLOAD: TR beams cannot be overloaded.

(E9.35) HEAVY TR DAMAGE TABLE

DIE ROLL	RANGE 0–3	4–5	6–8	9–12	13–18	19–25
1	20	20	18	12	8	3
2	20	20	15	9	5	2
3	20	18	12	6	3	1
4	20	15	9	3	2	0
5	18	12	6	2	1	0
6	15	9	3	1	0	0

(E9.36) LIGHT TR DAMAGE TABLE

DIE ROLL	RANGE 0–3	4–5	6–8	9–12	13–18	19–25
1	10	10	9	6	4	2
2	10	10	7	4	3	1
3	10	9	6	3	2	0
4	10	7	4	2	1	0
5	9	6	3	1	0	0
6	7	4	2	0	0	0

(E9.4) USE AS TRACTOR BEAMS

TR beams may be used as normal tractor beams at the option of the owning player. See (G7.341).

(E9.41) ARC: If used as a tractor beam, the firing arcs do not apply and the weapon has the 360° arc of all tractor beams.

(E9.42) ENERGY: If used as a tractor, all energy previously allocated to that TR beam (which could be up to six points) is available for use in that tractor beam. If not used for tractor energy when the TR is used for this purpose, the energy is lost. Additional energy can be provided as it could to any other tractor beam. An unarmed TR could be used as a tractor beam, but would require extra energy.

(E9.421) When a TR beam containing more than one point of energy is used as a tractor, this use must be for a valid purpose, not for the abusive uses listed in (D10.71).

(E9.422) The energy in the TR beam is, effectively, all "bid" in a tractor auction at the time it is used. See (D10.71) and (D10.74). More than one TR can be used for a single auction, although each TR must be bid as a unit and, if used, counts as "fired" for purposes of (E9.23). This is an exception to (G7.162), although only the first TR (or tractor) used for this purpose is maintaining the link for purposes of (G7.343). If a TR is used as a source for negative tractor energy, all of the energy in that tractor-repulsor is used as negative tractor at that point.

The weapon can begin recharging normally on the following turn, and can be used on that turn as a normal tractor with no delay since negative tractor does not require the use of a tractor beam (G7.354).
(E9.423) Any use of a TR as a tractor or for negative tractor counts as "firing" it as a weapon for purposes of the arming cycle (E9.23).
(E9.424) TR Beams can be used as tractors during their first turn of arming in violation of the fact that they can only fire once every two turns. At the time they are used as a tractor, all energy in the TR beam at that time is effectively "bid" (E9.422) when it is used. If any energy is NOT used for the tractor attempt from the TR beam, it is lost (E9.42). Such a TR beam could begin reloading on the following turn normally. A TR beam used as a tractor cannot begin reloading on that same turn with reserve power (H7.53) as it is considered to have been "fired".

EXAMPLE: An Andromedan Conquistador tries to tractor a Federation DD at one hex range. This takes one point of power of the three allocated for the first turn of arming of a TRH. If the DD does not fight the tractor, at the end of the turn the remaining two points are lost. If the DD does fight the tractor, the Conquistador can use the other two points, plus any reserve power it cares to add to the tractor attempt within the rules on Andromedan tractors, i.e., it cannot use more power than is absolutely required to achieve and maintain the tractor link.

(E9.43) NEGATIVE TRACTOR: An Andromedan player may (but never has to) use a TR beam for negative tractor purposes; in which case, all of the energy allocated to that TR beam becomes negative tractor energy and the weapon counts as having "fired" for purposes of the arming cycle (E9.23). More than one TR can be used for a single auction, although each TR must be bid as a unit and, if used, counts as "fired" for purposes of (E9.23). This use can be detected and must be announced. Negative tractor does not require the use of a tractor beam (G7.354); this procedure is used only as a source of energy.

(E10.0) HELLBORES

The hellbore is another example of the Hydran development of fusion technology. It fires an ultra-velocity fusion bomb. Upon striking the target, it spreads over the entire ship (by a special magnetic field) and then implodes. Due to the nature of the shields themselves, more damage is done to the weakest shield than any other.

(E10.1) DESIGNATION

(E10.11) SSD: Each box on the SSD represents one hellbore.

(E10.12) DESTRUCTION: The hellbore is destroyed on "drone" hits.

(E10.2) ARMING PROCEDURE

(E10.21) ENERGY: The hellbore is armed by allocating three units of energy (from any source) on each of two consecutive turns. Energy for the second turn of arming must be allocated; it cannot come from reserve power. It can use (H7.32).

(E10.22) ROLLING DELAY: Armed hellbores cannot be held as some weapons can, but the arming process can be extended. If the weapon is not fired by the end of the second turn of arming, the player must allocate three units of power on the next turn or the energy is lost. If power is allocated, that turn is treated as the second turn of arming. The procedure of extending the arming of a hellbore by rolling delay can be continued indefinitely, and is not limited to a single turn.

(E10.23) EXAMPLE: A Hydran Knight allocates three units of power to each of its two hellbores on Turn #1. The weapons cannot be fired since arming is not complete. The Knight then allocates three more units of power to each hellbore on Turn #2. The weapons can be fired at any time during Turn #2, but in this case no suitable target is within the Knight's firing arc. On Turn #3, the Knight can allocate three more units of power to each hellbore (the points allocated on Turn #1 are lost, the points allocated on Turn #3 are treated as the second turn of arming), in which case the weapons can be fired on that turn. If this power to continue arming is not allocated, all of the points of power allocated to the hellbores will be lost, so the Knight continues arming. The Knight fires both of his hellbores during Turn #3 and can begin rearming them on Turn #4. This example is continued below.

(E10.24) RE-ARMING: The arming sequence cannot be started on the turn that the weapon is fired, but can be started on any subsequent turn.

EXAMPLE: The Knight in the above example cannot use his three batteries to begin arming one of the hellbores during Turn #3. He could have used this reserve power to overload a hellbore at the point of firing, and if the hellbores had been discharged (i.e. no power was allocated), the batteries could have been used to begin arming one hellbore during Turn #3.

(E10.3) FIRING PROCEDURE

(E10.31) TYPE: The hellbore is a direct-fire heavy weapon.

(E10.32) PROCEDURE: The fire of a hellbore is resolved on the HELLBORE COMBAT RESOLUTION CHART, which is found on the SSDs of ships armed with the hellbore and below. The procedure is as follows: Determine the range and roll two dice. If the total of the dice is equal to or less than the hit number shown on the chart for that range, the weapon has hit the target, scoring the indicated amount of damage for that range. For example, at a range of six a die roll total of eight (or less) would be a hit, but a die roll total of nine (or more) would be a miss.

RANGE ➜	0 -1	2	3 -4	5 -8	9 -15	16 -22	23 -40
HIT #	11	10	9	8	7	6	5
Base Damage	20	17	15	13	10	8	4
O/L Damage	30	25	22	19	0	0	0

EXAMPLE: On Turn #3, the Knight in the above example fired his two hellbores at a Klingon F5B frigate at a range of nine (which is why he did not use his batteries to overload one hellbore; the frigate was out of overload range). The die rolls were (after adjustments for some optional rules the player will find below) seven and nine, one hit and one miss. The hit has a base damage of ten damage points. The Knight fired these as direct-fire hellbores (E10.7), so only five damage points are scored, but these are all scored on the #3 shield of the F5B (reducing it from sixteen to eleven). On Turn #5, having rearmed the hellbores, the Knight fired again, this time from Range 2, scoring two hits (die rolls three and ten). In addition, he used his batteries to overload one hellbore, producing a total of (17+25=) 42 damage points.

(E10.33) RANGE ZERO: Non-overloaded hellbores cannot be fired at a true range of zero. Exception: If fired by a unit in the same hex as a target with a zero radius ESG this will be resolved in accordance with (G23.845), i.e., the hellbore damages the ESG (and possibly the the ship generating that field) as if it had been fired at a range of one. This procedure is also used if fired at Range Zero into an ESG field as a result of (G23.56). There is no feedback from a non-overloaded hellbore in this situation.

(E10.34) RANGE: If the effective range is different from the true range (D1.4), use the effective range to determine if the weapon has hit the target and the true range to determine the amount of damage done.

(E10.35) EXPANDING SPHERES: See (G23.84) when the target is a ship with an operating expanding sphere generator.

(E10.4) DAMAGE RESOLUTION

(E10.41) DAMAGE PROCEDURE: To determine the damage caused by the hellbore, make the following calculation.

(E10.411) STEP A: Take the base damage from the chart and subtract any general shield reinforcement. This uses up the general shield reinforcement (assuming that the base damage is larger than the reinforcement). Note that this is the effective reinforcement (number of additional shield boxes) and *not* the amount of power applied to general reinforcement.

EXAMPLE: In the above example, the F5B had two points of energy applied to general reinforcement, which counts as one shield box and reduces the total damage from 42 to 41 points. (It should be noted that the Klingon player has made an error; the reinforcement should have been applied directly to the weak #3 shield.)

(E10.412) STEP B: Determine which is the weakest shield (there may be two or more equally weak shields). Divide the damage scored by the hellbores (by all hellbores which struck the ship in that volley) by 1+X, where X is the number of "weakest shields." One of the resulting groups of damage points will be applied to each "weakest shield" while the remaining group will be distributed over all of the other shields in Step C.

If there are fractional points and only one weak shield, assign the odd point to the weak shield. If there are several equally weak shields, keep the damage assigned to those shields equal; round fractions assigned to the weak shields of 0.5 or more up and 0.499 or less down, then adjust the points to be distributed among the other shields to reflect the original total.

If all shields are equal, ignore Step B (there is no "weakest shield") and proceed to Step C.

EXAMPLE: In the above example, the F5B had shields of 21-16-11-16-16-16 (the eleven reflecting the prior damage). The calculation would be to divide 41 by two, with 21 points striking the weak #3 shield (ten points of internal damage, less any reinforcement) and twenty points to distribute in Step C between the other shields. Had the F5B used a combination of damage repairs and reinforcement to boost the #3 shield to sixteen points, there would have been five equal shields, so 41 would be divided by six, yielding 6.833 points each. This would be resolved as seven points on each of the five weak shields and six points on the stronger #1 shield.

(E10.413) STEP C: Apply the remaining damage points to the remaining (usually five) shields one point at a time, starting with the weakest shield and progressing in order to the strongest shield, repeating this until all damage is applied. If, after distributing any given damage point, the number of remaining damage points is exceeded by the number of equal shields of the next strength category to be damaged, distribute those remaining points among the equal shields at the owning player's option.

EXAMPLE: The twenty points remaining from Step B to be distributed among the F5B's other five shields are divided as equally as possible with priority to the weaker shields. In this case, however, twenty points divides evenly and all five of the shields receive four points of damage. For illustrative purposes, assume that there were eighteen points to distribute. Each shield would receive three (total fifteen), with the odd three points distributed between the four equally-weak shields (#2, #4, #5, and #6) at the Klingon player's option. If the #4 shield (for purposes of illustration) had been weakened to fourteen boxes by phaser fire, it would have received one of these three points, with the other two distributed between #2, #5, and #6 at the Klingon player's option.

(E10.42) SHIELDS: When calculating the weakest shields, include specific shield reinforcement (including that generated by reserve power) and any previous damage. A shield that has a strength of zero is the weakest shield.

(E10.43) PENETRATING VOLLEYS: Enveloping hellbore damage that penetrates the shields is resolved as a single (and separate) volley. Treat any phaser which can fire through a down shield as vulnerable to destruction under (D4.321). Direct-fire hellbores (E10.7) are treated as other direct-fire weapons.

EXAMPLE: The Knight in the above example was firing at the Klingon F5B's #1 shield, but the hellbores penetrated the #3 shield. Any phaser that can fire through the #3 shield (i.e. the right forward and all three rear phasers on an F5B) is vulnerable to destruction. Note that the three rear phasers are vulnerable even though they could not fire at the Knight.

(E10.44) SEQUENCING: A ship can fire some of its hellbores before other direct-fire weapons and/or some after direct-fire weapons, at the same or different targets. A target can be hit by hellbores in either or both firing opportunities from the same or different ships. The order in which weapons are to be fired must be stated before any are fired. This is important in determining the application of reinforcement energy and the distribution of hellbore damage. The target may choose to apply reserve power reinforcement in response to the first hellbore step before resolving shield damage, or apply the power to damage scored in the direct fire step, or apply it in response to the second hellbore firing step, or apply some reinforcement energy to all three events or just two of them. It is at the target's option, but he must decide whether to spend the points in response to each step, he cannot wait for all three firing steps to conclude and then decide to, for example, apply all of his reinforcement energy to the second (direct fire weapons) step. If he did not apply the energy there before resolving whether or not a hellbore will hit in the second hellbore firing step, he cannot go back to the direct-fire weapons step if that hellbore missed

(E10.441) All internal damage resulting from enveloping [i.e. non-direct (E10.7)] hellbore fire at a given target in a given impulse is resolved as a single volley regardless of whether it was fired before or after direct-fire weapons. This volley is resolved AFTER the direct-fire volley.

(E10.442) This sequencing procedure is used only for enveloping hellbores; direct-fire hellbores (E10.7) are resolved with all other direct-fire weapons. Enveloping hellbores are always fired before or after other DF weapons; they are never combined with other DF weapons.

(E10.443) EXAMPLE: A Hydran Dragoon is closing in on a damaged Klingon F5B frigate. The Dragoon will fire all of its hellbores on the current impulse in an attempt to disarm the F5B. The F5B is facing the Dragoon, and its #3 shield (which the Dragoon is not facing) is down (and therefore the weakest).

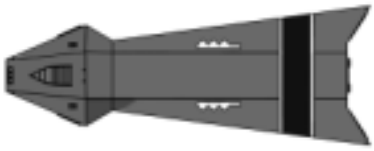
At the first hellbore firing option, the Dragoon fires one hellbore, which scores ten points of damage. This is resolved as five points on the (down) #3 shield and one point on each of the other shields; the shield damage is scored immediately, but the five points of internal damage are recorded to be resolved later.

During the DF Weapons Step, the Dragoon fires its phasers and two hellbores (in direct-fire mode) at the F5B's #1 shield, destroying it and causing six points of internal damage (which is recorded, but not resolved).

Finally, during the second hellbore firing option, the final hellbore is fired, scoring ten points of damage. This is divided with three points going through the #1 and three through the #3 shields and with one point on each of the other four shields.

In the subsequent DF Weapons Resolution Stage, the damage is resolved as two volleys. First, the six points from direct-fire weapons (including direct-fire hellbores and the phasers) are resolved. Second, the eleven points from the two non-direct hellbore firings are resolved as a single volley. Because this eleven-point volley includes points which penetrated both the #1 and #3 shields, any of the F5B's phasers which can fire through those shields is vulnerable (i.e. all five of the phasers on the F5B could be hit). Without the damage through the #1 shield, the L+FA phaser could not be hit. Without the damage through the #3 shield, the three RX phasers could not be hit.

Because non-DF hellbore fire is a separate volley, the Hydran is able to get two volleys instead of only one and increase his chances of getting weapons hits (i.e. a Mizia Attack) because the DAC is "reset" after each volley.



(E10.5) NON-STANDARD TARGETS

(E10.51) UNSHIELDED TARGETS: If a hellbore is fired at a drone, shuttle, fighter, or other unit that does not have shields (such as monsters) or which have only one shield, and assuming that a hit is scored, simply apply the full enveloping base damage to the target as you would from any other direct-fire weapon. However, all of the enveloping hellbore damage is still resolved as a separate volley.

(E10.52) ANDROMEDANS: See (D10.13) for the procedure for resolving damage on PA panels. Generally, the power is divided equally between the PA panel banks (D10.12), e.g. most ships have a forward and aft bank; some bases have six groups. Note, however, that a direct-fire hellbore (E10.7) would only strike the facing panels.

(E10.53) INTERCEPTORS: These small units (K3.0) have only two shields. Ignore the procedure in (E10.41), and simply divide the damage from an enveloping hellbore in half (regardless of the strength of the shields), applying half to each shield. If there is an odd point, apply it to the weaker shield. If both shields are equal, the player owning the interceptor can apply the odd point to either shield.

(E10.54) MONSTERS: Enveloping hellbores cannot be fired at living or size 0 monsters. Any hellbores fired at such targets must be fired in direct-fire mode (E10.7).

(E10.55) GROUND BASES: See (P2.7331) for a special procedure for enveloping hellbores; direct-fire hellbores will damage a ground base's shields as normal direct-fire weapons.

(E10.6) OVERLOADS *(ADVANCED)*

(E10.61) ENERGY: The hellbore can be overloaded. Allocate six units of energy (rather than the normal three) on the final turn of arming. (This energy cannot be applied on the first turn of arming.) See (H7.64) for partial overloads.
(E10.611) An overloaded hellbore cannot be held, nor can it use rolling delay (E10.22). The weapon must be fired on the turn in which overload energy is applied or discharged harmlessly (E1.24).
(E10.612) A hellbore that had previously been delayed by (E10.22) can later be overloaded, but it must be fired or discharged on the same turn that it is overloaded.

(E10.62) DAMAGE: The basic damage number is increased by 50% (round fractions down for each weapon). This damage is shown on the chart in (E10.32). Use the number on the chart; do not calculate it yourself.

(E10.63) RANGE: When fired in an overloaded mode, the range (true range) is limited to eight hexes. See (D6.126).

(E10.64) RANGE ZERO: If overloaded, hellbores can be fired at a range of zero. The hit number is eleven, and the overloaded base damage is 30. The firing ship scores one point of damage to each of its own shields as feedback damage for each overloaded hellbore which scored a hit at a true range of zero. This feedback damage does not reduce the effect of the weapon on the target. Hellbore feedback operates normally if an ESG field is struck by the hellbore at a range of zero.

(E10.65) NON-REVERSIBLE: Once the weapon is overloaded, it cannot be fired as a standard (non-overloaded weapon) until the overload energy is used by firing or discharging the weapon.

(E10.7) DIRECT-FIRE HELLBORE

Hellbores can be fired without the implosion detonators. This is known as the "direct-fire mode," even though all hellbores (direct-fire or enveloping) are direct-fire weapons.

(E10.71) PROCEDURE: When fired in this mode, the hit probabilities are the same, but the warhead strength is reduced by 50%.
(E10.711) To derive the direct-fire hellbore's base damage, divide the enveloping base damage in half and round fractions down (before comingling with other hellbores or weapons). The chart below is for your convenience; use the damage shown on this chart; do not calculate it yourself.

RANGE ➜	0 -1	2	3 -4	5 -8	9 -15	16 -22	23 -40
HIT #	11	10	9	8	7	6	5
DF Base Damage	10	8	7	6	5	4	2
DF O/L Damage	15	12	11	9	0	0	0

(E10.712) Score all resulting damage on the facing shield. Internal damage is combined with that of other direct-fire weapons, not with enveloping hellbores. The normal phaser damage restrictions from direct-fire weapons apply; see (D4.321).
(E10.713) The arming procedure is the same; the player designates which mode he is using at the instant of firing the weapon.
(E10.714) Direct-fire hellbores use the same interaction with ESGs as enveloping hellbores (G23.84), except, of course, a direct-fire hellbore has less warhead strength to apply against the ESG. If the ESG is dropped, any remaining direct-fire hellbore damage is applied directly to the facing shield of the ESG-generating ship.

(E10.72) OVERLOADS: If overloaded, reduce the amount on the overloaded enveloping hellbore line by 50%, rounding fractions down. (Use the numbers on the direct-fire hellbore chart above; do not calculate it yourself.)

(E10.73) FEEDBACK: If fired overloaded at Range Zero, the firing ship scores three points of damage on its own facing shield as feedback damage for each direct-fire overloaded hellbore which scored a hit at a true range of zero.

(E11.0) PLASMATIC PULSAR DEVICE

At some point prior to the first contact between the ISC and the Gorns or Romulans, but after they had observed them fighting, ISC scientists developed the Plasmatic Pulsar Device (PPD), which is used to arm the heavy units of the ISC fleet.

The basic concept of the weapon is a series of intensely focused plasma energy pulses that are conveyed to the target on a carrier wave.

The long-range striking power of the PPD is the key to the echelon tactics used by the ISC fleet.

(E11.1) DESIGNATION

(E11.11) DEFINITION: Each box on the SSD labeled "PPD" represents one device. Each device is treated and recorded separately. The PPD is a direct-fire weapon.

(E11.12) DESTRUCTION: PPDs are destroyed on "drone" hits.

(E11.13) IMPULSE CHARTS: When using PPD-armed ships, the standard 32-impulse chart is required. The optional charts with fewer impulses found in earlier editions (and not used in the *Captain's Edition)* cannot be used.

(E11.14) NON-VIOLENT COMBAT: PPDs cannot be used for non-violent combat (D6.43). Their effects are distributed over too large an area.

(E11.15) FIRE CONTROL: Active fire control (D6.6) and a lock-on (D6.124) is required for the entire time that the weapon is pulsing.
(E11.151) Each active PPD (those still pulsing) counts against the limit of seeking weapons being controlled by the ship (F3.216), but is not affected by (G24.23) or (G24.22). A PPD is not, in any way, a seeking weapon other than requiring a seeking weapon control channel. Control of a PPD cannot be passed to another ship, and a PPD cannot control itself.
(E11.152) A PPD cannot be fired with passive fire control (D6.623).

(E11.16) INSTALLATION: PPDs cannot be installed on ships smaller than size class 3.

(E11.17) FLEET LIMIT: ISC doctrine and the availability of PPDs limited how many could be deployed in a given area at a given time. For purposes of ISC ships in a patrol scenario, the maximum number of PPDs is calculated as follows: The flagship (the largest ship present) with whatever PPDs it has (a maximum of four), plus one PPD for every group of three ships in addition to the command ship (counting a maximum of one fractional group). This yields a maximum of eight PPDs in a standard eleven-ship fleet. There is also an overall limit of nine PPDs in any given fleet (assuming a larger fleet is authorized in that scenario). PPDs on bases do not count for purposes of this limit. Each flotilla of six (not less) PFs, whether casual or formal, counts as one "ship" for this equation. Fighters do not count at all.

(E11.2) ARMING PROCEDURE

(E11.21) POWER: To arm a PPD, four points of power (from any source) must be allocated on each of two consecutive turns. The PPD can then be fired on the second turn of arming. Exceptions: (E11.25) and (E11.61).

(E11.22) HOLDING: If not fired on the second turn of arming, the PPD may be held ready to fire at a cost of two points of energy (from any source) per turn. As with other weapons, if a PPD armed on a previous turn is not fired, the holding cost must be paid at the start of the new turn or the energy is lost and ejected into space (E1.24). If the holding cost is paid, the weapon can be fired during that turn or held longer if the holding cost is paid each turn. Overloads cannot be held (E11.62).

(E11.23) CYCLE: The PPD can only receive energy for one firing at a time. It cannot receive the first turn energy for one charge if it is still holding (or arming) an unfired charge. Note that, as firing takes place over a period of four impulses, arming energy can be added at the start of one turn while firing begun on the previous turn is still in progress.

EXAMPLE: The weapon was armed on Turns #1 and #2 and was fired on Impulse #31 of Turn #2. The pulses are resolved on Impulses #31 and #32 of Turn #2 and on Impulses #1 and #2 of Turn #3. Even so, arming energy could be added during the Energy Allocation Phase of Turn #3 (and the weapon fired on Turn #4, assuming arming was completed on that turn).

(E11.24) RESERVE POWER: The PPD cannot be armed with reserve power, but reserve power can be used to overload a PPD, even a PPD being held from a prior turn. Reserve power cannot be used to overload a PPD that is currently firing; see also (E11.63). Reserve power cannot be applied in any way to a PPD that is currently firing.

(E11.25) UNDERLOAD: The PPD can be loaded at less than the full charge, although arming still requires two consecutive turns with at least two points of energy, and a maximum of four, added on each turn. For every two points of energy added to the PPD, it can fire one pulse (at the same target, within the rules). An undercharged PPD can be brought to greater strength with reserve power OR BY HOLDING IT FOR AN ADDITIONAL TURN AND ALLOCATING MORE ENERGY. Since adding more than four points of power on a turn results in the PPD being overloaded, you can add two (or four) points of power on the third turn of arming giving you three (or four) pulses. You will not be able to get the fourth pulse on the second turn of arming until the third turn of arming since even adding reserve power to try get the fourth pulse during that turn would be adding more than four points of power on that turn, i.e., two points allocated on the first turn of arming, two points allocated on the second turn of arming, no more than two more points could be added by reserve power during the second turn of arming without resulting in the weapon being considered overloaded even though it would only have three pulses. Note that "holding energy" is separate from "arming energy" and is not included in any of the above. This means that an underloaded PPD that was armed with two points on Turn #1 and two points on Turn #2 could receive four points of reserve energy on Turn #3, resulting in a standard four pulse PPD, as the two points of energy used to hold the underloaded PPD on Turn #3 do not count. Note that the normal arming level requires eight points of energy and produces four pulses. See (E11.311). Note that, if more than four points of energy (not counting holding energy) are added to a PPD during any turn, it is considered to be overloaded, see (E11.65). It is not possible to produce a PPD with one pulse.

(E11.3) COMBAT PROCEDURE

(E11.30) GENERAL: When the PPD is fired, it operates over the current impulse and the next three impulses. In effect, it gets four "shots" (termed "pulses;" there may be more or less than four in some cases) at the same target and rolls for a wave-lock (E11.31) each time. [It cannot change targets between pulses of the same charge; exceptions: (E11.56) and (E11.546).] Whenever a wave-lock is achieved, all subsequent pulses automatically hit [unless the conditions change (E11.5)].

(E11.31) PROCEDURE: The PPD is a direct-fire weapon and is fired during the Direct-Fire Weapons Segment before any other fire by that side. The owning player designates the target (at the same time as all other direct-fire is designated) and resolves fire as follows:

Determine the range;

Roll two dice for each PPD; and

If the total of the two dice is equal to or less than the wave-lock probability number (i.e. "hit number") for that range shown on the chart below, the device has achieved a wave-lock. It then begins to score damage (E11.331). See (E11.37).

EXTRACT FROM THE SEQUENCE OF PLAY

6D2: DIRECT-FIRE WEAPONS FIRE STAGE

General note: Weapons are fired in the specific order given. Resulting internal damage is not resolved until the Damage Resolution Stage. At the points marked "§", reserve power may be used under (H7.134) to mitigate damage.

PPD Step: PPDs roll for wave-lock if available and required (E11.3). PPDs score damage (E11.332). Shield damage is marked§; internal damage is recorded to be resolved in 6D4.

First Hellbore Firing Option (E10.44).

Direct-Fire Step: All Direct-Fire Weapons not listed separately fire. Shield damage is marked§; internal damage is recorded to be resolved later (E1.11) in 6D4.

Aegis Fire Step (D13.0).

Second Hellbore Firing Option (E10.44).

(E11.311) Upon firing a PPD, the owning player must write down the turn and impulse of firing, the identity of the firing ship, and how many impulses each PPD is programmed to pulse; see (E11.61) and (E11.25). This written record is then placed face down. After each pulse is resolved, the owning player must announce whether or not the PPD wave-lock is still present [i.e. overloads are generally revealed after the fourth pulse, but this is not always the case; see (E11.65)]. After the wave-lock is released, the written record is revealed and confirmed. Retain this record until the end of the scenario to verify the energy allocation records.

(E11.312) In all cases, the dice roll is made at the effective range and the damage is based on the true range. The weapon cannot be fired if the true range is three or less, regardless of what the effective range is, although in some cases a wave-lock might be retained (E11.521).

(E11.32) PPD COMBAT CHART

Range	0-3	4-10	11-15	16-20	21-25	26-30	31-40
Hit #	-	9	8	7	6	5	4
Damage	0	6	5	4	3	2	1
Splash	0	1+4+1	1+3+1	1+2+1	1+1+1	1+1+0	0+1+0
Alt	0	3+3	3+2	2+2	2+1	1+1	1+0

(E11.33) PULSES: The dice are rolled on the impulse of firing. If the dice roll indicates a wave-lock, the damage for that range is scored.

(E11.331) Unless conditions change (E11.5) and the wave-lock is lost, the same damage will be scored on the subsequent impulses until the total number of pulses for which energy was provided have been fired. If the dice roll indicates no wave-lock, the wave (or pulse) for that impulse is lost but the player rolls for another wave-lock on the next impulse (E11.34), assuming that the weapon has another

pulse to fire. Once a wave-lock is achieved, all remaining pulses (from the original arming, if any) score damage unless the wave-lock is lost (E11.51). Exception: Cloaked targets (E11.473).

(E11.332) All damage scored by a given PPD during a given impulse is resolved as a single volley separate from other weapons (including other PPDs) and other pulses of that PPD. These PPD volleys are resolved before hellbores and other direct-fire weapons; see Annex #2 Sequence of Play or the extract at (E11.31).

For purposes of phaser damage restrictions (D4.321), internal damage is considered to have come from any or all directions with penetrated shields that the specific PPD pulse came through. For example, a ship with its #1, #2, and #3 shields down hit by a PPD on its #3 shield would lose phasers able to fire through the #2 or #3 shield, but not phasers only able to fire through the #1 shield, since none of the PPD splash struck that shield.

(E11.333) It is not possible to voluntarily "pass" on one pulse and then continue with subsequent pulses. The weapon can be voluntarily shut down on a subsequent Fire Allocation Stage, but at that point all remaining pulses are lost (E11.362). The player could deliberately miss with a pulse, but would have to roll to reacquire wave-lock (E11.34) on the next Direct-Fire Weapons Fire Stage.

EXAMPLE: A PPD is fired at a target at a range of twelve. The dice roll at the instant of firing is eleven, indicating a miss (i.e. failure to attain wave-lock). Thus, the first of the four pulses is lost. On the next impulse, a four is rolled, indicating a wave-lock has been achieved. Thus, pulse #2 will hit, as will (automatically, unless wave-lock is lost) pulses #3 and #4, one pulse on each of the next two impulses. Pulse #1, however, missed and is lost.

(E11.34) RE-ACQUISITION: If the PPD achieves a wave-lock and scores damage, and then [due to changing conditions (E11.5)] loses its wave-lock, it will try to re-acquire the wave-lock (by making another dice roll) to the original target in any remaining firing impulses. It cannot switch targets.

EXAMPLE: In the example above, if the target used reserve power for ECM and increased the ECM shift, this would change the conditions (E11.5) and require a new wave-lock dice roll. If this happened (and the dice roll failed) in Impulse #3, the PPD would cause no damage in that impulse, but would still roll for a wave-lock during Impulse #4.

(E11.35) SPLASH EFFECT: The impact of the weapon is spread over two or three shields.This is not an optional use of the weapon. It is the way that the weapon always operates. Players cannot voluntarily operate the weapon "without splash" under any circumstances. [See (P2.7332) and (E11.353) for an example of involuntarily losing a splash element.] The total damage shown on the "damage" line of the PPD chart is for statistical purposes and never reflects the damage actually scored on a single shield.

(E11.351) If the line of fire is directly along a hex side (D3.41) and (D3.43), do not determine which shield is hit but divide the damage points evenly between the two shields (as on the "alternate" line on the chart), with any odd points going to the stronger shield. If the shields are of equal strength, the owner (of the target) decides which will take the extra damage point.

(E11.352) If the line of fire is against a single shield, then divide the damage points between that shield and the adjacent shields on either side, according to the "splash" line on the chart. The main (center) element is scored against the facing shield of the target, while the splash elements are scored against the adjacent shields clockwise and counter-clockwise from the facing shield. For example, six damage points from a PPD facing the #3 shield would be scored as one damage point on the #2 shield, four damage points on the #3 shield, and one damage point on the #4 shield. In the case of two damage points, ignore the weaker adjacent shield (if both adjacent shields are equal, the owner of the target decides which takes the damage point); in the case of one damage point, ignore both adjacent shields.

(E11.353) In the case of size class 6 and size class 7 units [and monsters, planets (P2.3), small or medium ground bases (P2.76), or other targets which do not and never had shields], ignore the splash effect and use only the central number on the splash line; see (P2.7332). For example, when fired at a drone at Range 6, the PPD would score only four points per impulse. (This does not apply to size 5 and larger ships which have dropped or lost their shields.)

(E11.354) In the case of Andromedan ships with two groups of PA panels:

If the PPD strikes the position of the #1 shield, all damage is scored on the forward panels.

If the PPD strikes the position of the #4 shield, all damage is scored on the rear panels.

If the PPD strikes the position of the #2 or #6 shield, the larger splash element is scored on the rear panels and the remainder on the forward panels.

If the PPD strikes the position of the #3 or #5 shield, the larger splash element is scored on the forward panels and the remainder on the rear panels.

If the PPD strikes the border between the #2/#3 or #5/#6 shields, use the alternate line and apply the elements to the forward and aft panels, distributing the odd point (if the elements are uneven) by (E11.352).

The "splash element" refers to the two side elements, not to the main blast. This aspect would only take effect if the damage was 1+1+0, in which case the first "1" is the "larger splash element" and strikes the opposite panels. The central number is not a "splash element" and will always strike the facing panels.

In the case of Andromedan ships with six groups of panels (e.g. starbase), these are treated as shields normally would be.

NOTE: The same system is used for interceptors (K3.0).

(E11.36) RESTRICTIONS: Once firing has commenced, the PPD cannot be switched to another target during the firing sequence.

(E11.361) There are very few exceptions to (E11.36), and none of them are voluntary. Rule (E11.54) provides for the involuntary transfer of wave-lock to a planet or moon. Rules (E11.56) and (C13.734) provide for involuntary transfer of wave-lock while firing at a unit docking or docked.

(E11.362) The owning player can voluntarily drop the wave-lock and (essentially) cease firing after any pulse. This can be announced at any point after one pulse is fired and before the next is fired. Whether dropped voluntarily or involuntarily, all subsequent pulses are discharged into space (E1.24) and can be individually detected and counted. See (E11.546) for an exception when PPD pulses cannot be cancelled.

(E11.37) MODIFIERS: The PPD is subject to all normal dice roll modifiers, including EW (D6.3), crew quality (G21.0), small targets (E1.7), legendary officers (G22.0), etc. It is subject to the conditions of all direct-fire weapons (e.g. target lock-on, fire blocked by planets (P2.321), etc.). Note (FD1.52) if it is fired at a drone.

(E11.38) NARROW SALVOES: PPDs cannot be fired in a narrow salvo (E1.6). Each PPD has its own unique carrier wave frequency.

(E11.39) GENERAL REINFORCEMENT: The player operating the target ship can use any general reinforcement (D3.341) to offset the damage from any elements of the PPD at his option, but all general reinforcement points must be used against the first pulse (unless there are more points than needed to stop the damage) before any PPD damage is scored on shields or specific reinforcement.

EXAMPLE: A PPD hit scores one point of damage on the #2 shield, four points on the #1 shield, and one point on the #6 shield. The player operating the target ship has two points of general reinforcement. He elects to use one to block the damage to the #6 shield, which is down. He must use the remaining point now, however, rather than waiting for the next impulse when another damage point will strike that shield; he uses it to reduce the damage to the #1 shield.

(E11.4) INTERACTION WITH OTHER SYSTEMS

(E11.41) ESG: The PPD does not interact with an ESG field (G23.81). It cannot damage the field and is not inhibited by it.

(E11.42) WEB: A PPD cannot be fired through a web hex with a strength of more than zero (G10.61). (A cast web which has yet to solidify will not block wave-lock.) A PPD can be fired into or out of a web hex of any strength or along the edge as provided in (G10.61).

(E11.43) STASIS: If the target is placed in stasis, the wave-lock remains and the pulses will hit, but they cannot damage a ship in stasis (G16.41) and so will effectively be lost. If the firing ship is placed in stasis, the wave-lock is broken and cannot be restored. When the ship is released, the remaining pulses will be lost (E11.362).

(E11.44) DISPLACEMENT: If the target ship is displaced, the wave-lock will remain (unless broken by other circumstances, such as terrain, being displaced outside of the firing arc, etc.) but a new wave-lock roll may be required if the conditions have changed for the worse, such as terrain creating an ECM shift. If the firing ship is displaced, wave-lock is broken (E11.362); see (E11.54). See (G19.48).

(E11.45) PLASMA SYSTEMS: The PPD has no effect on plasma torpedoes (FP1.61) or anything that plasma torpedoes won't affect.

(E11.46) WILD WEASELS: While a wild weasel will not distract a PPD wave-lock, it will increase the ship's ECM (J3.23) and could force another dice roll.

(E11.47) CLOAKING DEVICES: These have special effects on a plasmatic pulsar device.
(E11.471) A ship might begin cloaking while held in a wave-lock. The fade-out procedure (G13.14) defines the steadily "increasing" or "decreasing" (effective) range. A PPD can maintain a wave-lock on a ship that is cloaking until the end of the fade period and can lock onto a cloaked ship while it is fading-in (G13.15) so long as the true range is greater than three (E11.52). The fade-in period will define the decreasing effective range.
(E11.472) A PPD can be fired at a cloaked ship if the firing ship has a lock-on to it. Effective range is used for wave-lock; true range is used to determine damage scored (G13.341), and the damage is then reduced by (G13.37). [Note specifically that the weapon still can NOT engage if the TRUE range is three or less (E11.312).] Any reduction is taken first from the splash elements.
(E11.473) The PPD cannot hold a wave-lock on a fully cloaked ship. The PPD must roll for a new wave-lock on each pulse even if a wave-lock was achieved on a previous pulse. This is an exception to (E11.331).
(E11.474) A PPD wave-lock to a cloaked ship will not void (G13.4) its cloaking device.
(E11.475) Ships cannot fire PPDs while cloaked, cloaking, or uncloaking (G13.513).

(E11.48) DISENGAGEMENT: A unit cannot disengage by sublight evasion (C7.3) while held in a wave-lock. Other means of disengagement are unaffected.

(E11.49) ERRATIC MANEUVERS: The standard ECM shifts are used when the target or firing unit are operating under EM (C10.41). Note that the (C10.512) restriction on guiding seeking weapons does not apply to maintaining the wave-lock.

(E11.5) CHANGING CONDITIONS

Certain events can change the conditions of the wave-lock and require a new dice roll or permanently break the wave-lock.

(E11.51) NON-LOCKED IMPULSES: During any firing impulse when the PPD does not have a wave-lock, it will roll to try to achieve one. If one is not achieved, that pulse will miss (be wasted).

(E11.52) RANGE: The damage scored by a given pulse is based on the true range (E11.312) at the instant of firing. Changes in range will affect the damage caused by a PPD pulse, but will not break the wave-lock (unless the target moves beyond the 40-hex maximum range or the eight-hex maximum range for an overloaded PPD).

EXAMPLE: A target at Range ten is held in a wave-lock. The pulse fired on Impulse #5 causes six points of damage. The target moves one hex farther away (Range 11), and the pulse fired on Impulse #6 causes only five points of damage. The firing ship moves one hex closer (Range 10), and the pulse on Impulse #7 causes six points of damage.

(E11.521) If the target moves within the minimum range (known as the "myopic zone"), the PPD retains its wave-lock even though no damage is scored, and if the true range subsequently increases beyond the minimum while the weapon is still firing, it will cause damage during the impulses after the range increases.
(E11.522) If the target moves beyond the eight-hex maximum (true) range of an overloaded PPD, the PPD loses wave-lock and all further pulses are lost.

(E11.53) ELECTRONIC WARFARE: If the number of electronic warfare shifts changes in favor of the target (D6.35), the firing ship must roll again for a wave-lock during the firing step. Note that this could be caused by increased ECM points received from lending (or a wild weasel) or points received from natural sources; see (D6.314).

EXAMPLE: If the target had four net ECM (two shift) and increased to six net ECM (still two shift), there is no new roll as there is no change in the EW level. If the target dropped one point of ECM, the EW situation would improve, and there would be no new roll for wavelock that impulse. However, on the next impulse the target could use a point of reserve power to restore the four net ECM, thus restoring the two shift and the wavelock would have to be rerolled. Of course a canny ISC player might realize that is why you dropped the ECM point on the previous impulse and apply additional ECCM from his own reserve power to counter it. The presence of scouts (G24.0) on either side can greatly complicate the situation.

(E11.54) BREAKING WAVE-LOCK: If any of the following events occur, the wave-lock is broken and all subsequent pulses are lost. Do not roll for a new wave-lock.
(E11.541) The target moves out of the firing arc (D2.0) of the PPD or moves out of range (including the eight-hex true range of overloads).
(E11.542) The target is destroyed (D4.4).
(E11.543) The target disengages (C7.0) (except by sublight evasion); see (E11.48).
(E11.544) The specific PPD box on the firing ship is destroyed (D4.2).
(E11.545) The firing ship is placed in stasis [(G16.0) and (E11.43)], is displaced [(G18.0) and (E11.44)], suffers a breakdown (C6.547), declares catastrophic damage (D21.223), or is captured (D7.532).
(E11.546) The line of fire is blocked by a planet (P2.32) or other major object [black hole (P4.23), pulsar (P5.32), star (P12.1), possibly (a 50% chance) a small moon (P2.322)]. In this case, the wave locks onto the object and will damage it (if it can be damaged in the scenario rules) unless firing is stopped. The transfer of wave-lock is made in the Fire Allocation Stage; PPD fire cannot be cancelled between the involuntary transfer and the actual firing (E11.362).
(E11.547) The line of fire is blocked by a newly created (i.e. solidified) web laid by a ship or web caster or web snare, or the target moves behind a pre-existing web if the web has a strength of greater than zero (G10.61). See (E11.42) and (E12.551).
(E11.548) The owning player ceases fire by dropping the wave-lock (E11.362).
(E11.549) The firing ship turns off its active fire control or otherwise loses lock-on. See (E11.15).

(E11.55) TARGET SEPARATION: If the target ship separates, the beam will retain a wave-lock to the largest section (G12.51) (e.g. Fed, Klingon, or Neo-Tholian rear hull; tug rather than pod/pallet.)

(E11.56) TARGET DOCKING: If the target docks inside or to a larger unit (C13.0), the carrier wave will switch to the larger unit as its target. If something undocks or launches from a target, the wave-lock will remain on the larger element.
(E11.561) If the target docks to a unit of smaller size, the wave-lock does not shift to it.
(E11.562) If the target docks to a unit of the same size, the wave-lock does not shift. However, upon undocking one of the two elements is selected randomly and the wave-lock accepts that unit as its target.
(E11.563) See (C14.37) for the effect on a Tholian Pinwheel.
(E11.564) A PPD can be targeted on a ship or other unit externally docked to a base, but not a PF docked to a PFT or to a PFT module (C13.734) or an externally-docked shuttle.

(E11.57) SHUTTLE TARGET: A fighter held in a wave-lock cannot enter a dogfight (J7.0). A fighter or shuttle is only affected by the main element (E11.353), and not the splash elements of a PPD.

(E11.58) NON-BREAKING INCIDENTS: The following events will NOT (at least not in and of themselves) break a wave-lock:
(E11.581) The firing ship is held in a tractor beam (even by a larger ship), is boarded, is "clawed" by a space dragon, changes speed or direction (unless the target becomes out of arc), hits a mine, is damaged by a mine or self-destruction explosion, or any other event not specifically listed in (E11.54).
(E11.582) The target is held in a tractor beam, is "clawed" by a space dragon, changes speed or direction, suffers a breakdown, declares ID/CD, is placed in stasis (stasis will, however, block damage), hits a mine, is damaged by a mine or self-destruction explosion, or any other event not specifically listed in (E11.54).

(E11.6) OVERLOADS

The PPD can be overloaded. Doing so does not increase the damage any given pulse causes, but rather increases the number of pulses. See (H7.64).

(E11.61) PROCEDURE: Allocate eight points of energy (rather than the normal four) on the second turn of arming. The damage is not increased; instead, the weapon fires six pulses over six impulses rather than four pulses over four impulses. See (E11.311) for the written records required.
(E11.611) No more than four points of energy can be allocated on the first turn of arming.
(E11.612) It is possible to "underload" (E11.25) an overload by adding only six points in the second turn of arming, gaining only one additional pulse; see (E11.65).

(E11.62) NON-HOLDABLE: Overloaded PPDs cannot be held (E11.22).

(E11.63) HELD PPDs: PPDs armed on previous turns and held (or completing the second turn of arming on the current turn) can be overloaded by reserve power. Held PPDs can also be overloaded by allocating overload energy during Energy Allocation, but this energy would be in addition to the holding energy, and the PPD must be fired or ejected by the end of the turn. PPDs cannot be overloaded while firing. See (E11.24).

(E11.64) RANGE: The maximum true range for an overloaded PPD is eight hexes. See (G13.341).

(E11.65) OVERLOAD vs UNDERLOAD: If the PPD was not fully loaded on the first turn (E11.25), adding more than four points of energy (two more pulses) on the second turn is still treated as an overloaded weapon, even though it will have fewer total pulses.

(E11.7) TACTICS

As the plasmatic pulsar device is an entirely new system, the following comments and tactical advice are included to assist players in learning to use it.

- The weapon is extremely powerful, being able to produce considerable amounts of damage over long ranges. More importantly, it is almost guaranteed to do at least some damage as the repeated dice rolls for each pulse make it more likely that the target will be hit.
- The implications of the splash effect are also considerable. While the weapon can do 24 points of damage, only 2/3 of this is on the facing shield. If the target turns away, it will by definition be turning a damaged shield toward the weapon. Also, the shield that took the heaviest damage on the previous pulse will still take some damage on the subsequent pulses. Further, the attentions of a PPD-armed ship will reduce the target's protection over a 180° arc, making it more vulnerable to other ships.
- Web casters and displacement devices are devastating to PPD-armed ships and echelon formations. See (R13.1B).
- Keep careful track of movement to control which shields are hit. Fire immediately after the target turns to minimize his ability to turn away from the weapon.
- You can influence an enemy ship's movements by firing a PPD when it is near blocking terrain. The ship will doubtless move behind the terrain to avoid further damage.
- The weapon has some problems engaging small bases on planets; see (P2.7332).
- In large numbers, the fact that each weapon is a volley in and of itself results in multiple "A" row hits on the DAC which can rapidly strip a ship with a down shield of weapons.

(R13.1C) REAR-FIRING PLASMA TORPEDOES

Most ISC ships include a number of type-F plasma torpedoes aimed toward the rear. These are designed to protect the ship from flank attacks or during retreats; they are not designed as the second volley of an overrun attack.

These rear-firing torpedoes do not have PPTs. They are tied to a defensive fire-control system, which allows any or all of them to be fired at size class 5 (i.e. PFs) or smaller targets on the same turn (but not at the same target on the same impulse). This defensive control system is not linked to any other weapons and cannot identify drones.

Each ship can fire only one of its rear-firing torpedoes at a size class 4 (or larger) ship each turn. The 1/4-turn firing limit applies when firing at ships and does not apply to or restrict firing at size 5 or smaller units (except for planetary bases, which are always under the size 4+ restrictions regardless of their size).

There is no refit to allow more than one of these plasma torpedoes to fire at size 4 and larger ships on a single turn. There is no way to add PPTs to these weapons.

These weapons are fixed, firing in direction three or five with the tracking arcs shown on the SSDs and in rule (D2.35). These torpedoes cannot be equipped with swivels due to the mounting. They do NOT use the firing arcs of the Gorn battle pods.

(E12.0) WEB CASTER

The Tholian web caster is a device for projecting web across considerable distances (up to 300,000km). The device does not lay a strand of web from the target to the launcher (though it can do this); rather, it creates a small self-supporting area of web at the point where it is aimed. The caster is extremely energy efficient and may indicate how much of their technology the Tholians lost in their flight.

The web caster was brought to the Tholians by the 312th fleet (see R7.60), and the Tholians only managed to create a very small ability to build new ones during the time period of the game.

The Neo-Tholian ships that originally carried the weapon were impossible to replace, and the Tholians only risked a few of the smallest of these (the NCL) any strategic distance outside of the Holdfast in support of Alliance operations. NCAs and NDNs never appeared outside of Holdfast territory or its immediate surroundings until Operation Unity (U6.0).

Web casters also have a direct fire capability. See (E14.0).

(E12.1) DESIGNATION

(E12.11) DEFINITION: Each box on the SSD represents a single web caster. Each such box operates independently.

(E12.12) DESTRUCTION: Web casters are destroyed on "drone" hits.

(E12.13) SEQUENCE: Web casters are considered direct-fire weapons. They are declared with all other direct-fire weapons but are operated after all other direct-fire weapons in that step of the Sequence of Play (but before damage allocation). See (E12.36) for firing rates.

(E12.14) WEB GENERATION: Web casters can operate as web generators (G10.0) but cannot do so on the same turn in which they operate as web casters. If operated as web generators, none of the rules in this section (except this one) apply.
(E12.141) Energy stored in the web caster (E12.3) at the time it is used as a web generator must be added to the web as reinforcement [see (G10.2121) for limits]; it cannot be held by a web caster used as a web generator.
(E12.142) The decision to use a web caster as a web generator is made at the instant of use, unless more than five points of power are allocated, in which case the decision was made during Energy Allocation.

(E12.143) Using a web caster as a web generator (i.e. actually laying or reinforcing web) does not count as "firing" the weapon for purposes of the delay in (E12.36).

(E12.15) FIRE CONTROL: A ship cannot fire a web caster unless it has active fire control and a lock-on to the target hex(es) (D6.62), but active fire control is not required to use it as a web generator. See (E14.251) for web fist.

(E12.16) FLEET LIMIT: Tholian doctrine and the extremely limited availability of web casters limited how many could be deployed in a given area at a given time. For purposes of Tholian ships in a patrol scenario, the maximum number of web casters is calculated as follows: The flagship (the largest ship present) with whatever web casters it has (a maximum of three), plus one web caster (weapon, not ship) for every group of six ships in addition to the command ship (counting a maximum of one fractional group). This yields a maximum of five web casters in a standard eleven-ship fleet. There is also an overall limit of six web casters in any given fleet (assuming a larger fleet is authorized in that scenario). Web casters on bases do not count for purposes of this limit. Monitors are ships not bases. In a campaign such as F&E, the players can deploy their ships as they wish, by robbing some fleets of their web casters to strengthen others. This limit does not apply to the 312th before it arrived in Tholian space.

(E12.2) WEB CREATED BY WEB CASTERS

Web casters create web at distances up to 30 hexes from the ship. They can create two types of web: normal web and "free standing" web. The only difference is that free standing web does not require anchors, and it evaporates after a short time. Web casters cannot create a web that it would be illegal for a web generator to create.

(E12.21) NORMAL WEB created by web casters is identical to web created by web generators, except that it is created at some distance from the ship and is much more energy efficient.
(E12.211) The weapon is used to create this web between two acceptable anchor points (G10.1311), such as asteroids or Tholian ships [including PFs and bases, but only those with undestroyed web generators, snares, or web casters; this is an exception to (G10.1311)]. Shuttlecraft [(J0.0) and (G10.1313)], web anchors (G26.36), and foreign ships are not acceptable for this purpose.
(E12.212) If an acceptable anchor point is within four hexes, the firing ship can be the second anchor point.
(E12.213) Web cast between two anchor points solidifies as normal web on the impulse it is fired as part of the Web Casters Fire Step.
(E12.214) A player is not required to use available anchors and could place "free standing" web (as opposed to normal web) into a hex containing a valid anchor.
(E12.215) Normal web cannot be fired by web casters (or created by web casters used as web generators, for that matter) while the firing ship is performing Erratic Maneuvering. Free standing web fired from a web caster is treated differently; see (E12.563). See (C10.52).

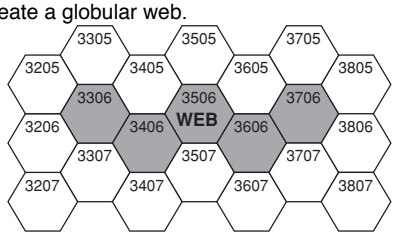
(E12.22) FREE STANDING WEB does not require anchor points; indeed, any web created by a web caster without anchor points is automatically considered to be free standing.
(E12.221) Free standing web does require four impulses to form after it is created and has no effect until it has formed (E12.55).
(E12.222) Free standing web cannot be anchored later. Web anchor buoys (G26.32) cannot be added to a free standing web. Ships (or other units) cannot assume anchor status (G10.116) for a free standing web.
(E12.223) Free standing web does not degrade over a turn break (G10.4). A web cast on Impulse #15, becomes effective on Impulse #19 and dissipates on Impulse #3 of the following turn will have the same strength on Impulse #3 that it had on Impulse #19, but during the web caster stage of Impulse #3 it will dissipate completely.

(E12.23) EFFECT OF WEB TYPE: Normal and free-standing cast web are treated differently.
(E12.231) Normal (anchored) webs created by web casters can be extended (G10.118) or reinforced (G10.212) by ships equipped with web generators. Cast web can be extended into a circular anchored web, but it must have legal anchors for this to be possible. Cast web cannot be extended to become a self-supporting globular web.
(E12.232) Free standing webs cannot be anchored, extended, or reinforced by any means.
(E12.233) A non-Tholian unit in a web hex when it forms (whether as cast anchored web, or free-standing web that has solidified) is subject to all the restrictions and procedures of (G10.59) when it is next scheduled to move. Non-Tholian units include Tholian units which have turned off their web passage ability (G10.533) or assumed anchor status (G10.116), or are on an opposing "side" to the unit which cast the web. The effects of (G10.59) may be delayed over a turn break, e.g., if the web solidified on Impulse #32 trapping a ship. If this occurs, the ship will have an intervening Energy Allocation Phase, and its roll for breakdown and damage will be made based on its first move in the subsequent turn even if later mid-turn speed changes result in it moving faster. The formation of the web is treated as the unit "moving from a non-web hex to a web hex" (G10.596) and the unit will be damaged based on its speed when it is next called on to move.

(E12.24) LIMITATIONS: Webs created by web casters cannot be in hexes adjacent to or in the same hex as other webs at the time it is created, including webs created during the same impulse; see (E12.52). This is a function of the frequency of the web field. This includes any free standing webs which have not as yet become active, and of course, does not include the hexes of the same web being created by the same web caster at the same time (impulse). If anchored web is cast into the hex of a unit, including Tholian units which have turned off their web passage ability (G10.533) or are on an opposing "side" to the unit which cast the web, it suffers the effects of (G10.59) on its next scheduled movement.

(E12.25) STRAIGHT WEB: Webs created by a web caster must be in a straight line (or include only one or two sideslips in the same direction). A three hex cast web may include one sideslip, a four hex cast web may include two. Note that because of this rule a web caster cannot be used to create a globular web.

EXAMPLE: A valid straight web connects hexes 3306-3406-3506-3606-3706. It could include 3405 and 3605 instead of 3406 and 3606. It could not include both 3406 and 3605. It could not include both 3405 and 3606.



It would be possible to include both 3406 and 3605 in a valid straight web, but not one with the end points given in this example.

(E12.26) DISSIPATION: Free standing webs cannot be extended, anchored, or reinforced (E12.232); they dissipate completely twenty impulses after they are created (fired, not solidified). Free-standing webs dissipating on a given impulse do so after the solidification of new cast webs on that same impulse. If a unit is trapped in such a web (accumulating movement points to escape it), the unit would, at the point that the web dissolved, move freely, but it could not recover the lost movement points. There is no difference between a "normal" web and a "fully-formed free-standing" web except that the free-standing web dissipates sixteen impulses after it is fully formed; it cannot have anchor points; it can be fired while erratically maneuvering; and it cannot be extended or reinforced; and it does not degrade over turn breaks, i.e., it retains its strength until it dissipates. See also (E12.55).

EXAMPLE: A ship is trapped in an eight-point free-standing web hex. It was moving at a speed of sixteen and had expended four movement points during the turn before coming to a halt (on Impulse #8) in the web. Normally, the ship would have to expend eight movement points to escape from the web and would escape on Impulse #24. However, the free-standing web dissipates on Impulse #15 (having originally been placed on Impulse #27 and solidified on Impulse #31 of the previous turn) after the ship has spent only three movement points in the web. The ship resumes its original speed and does not owe the additional five movement points to the web, but cannot recover the three movement points lost while trapped in the web.

(E12.3) ARMING PROCEDURE

(E12.31) ENERGY: Energy can be allocated to a web caster over a period of turns. A maximum of five points of power can be stored in each web caster. Any amount (up to five points) can be allocated to a single web caster in a single turn; exception: (E12.14). Energy stored in a web caster cannot be removed or used for other purposes. Energy allocated to a web caster on a given turn can be cancelled before it has been used on that same turn by (D22.0). Reserve power (H7.2) can be used to charge a web caster on the turn it is to be used or charge it for future turns.

(E12.32) LIMIT OF STORAGE: Energy stored in a web caster must be used within five turns, or it is lost and cannot be recovered. This is on a turn by turn basis. If two points were allocated on Turn #1 and three points on Turn #4, there would be (assuming no more power was added) five points stored on Turns #4-#5, three on Turns #6-#8, and none on Turn #9.
(E12.321) There is no holding cost for this weapon (beyond the fact that it will lose power if not used for five turns).
(E12.322) Energy stored in a web caster at the start of a scenario is based on the weapon status (S4.1) of the unit with the web caster, as per the following table:

Weapon Status	Energy stored
0 or I	0
II	2
III	5

This energy is considered to have been added in the Energy Allocation Phase of a hypothetical Turn Zero before the scenario began and will disappear (if unused) at the end of Turn #4.
(E12.323) Reserve power added to a web caster in mid-turn is counted for purposes of (E12.32) as having been added at the start of that turn.

(E12.33) OVERLOADS: A web caster cannot be overloaded.

(E12.34) ALL STORED POWER MUST BE USED: When a web caster is fired (as a web caster or web fist), all of the energy points stored in it must be used or lost. None can be held for a later firing. See also (E12.14). This includes the use of the weapon as a web fist (E14.0).

(E12.35) SUBSEQUENT ARMING: After firing, energy may be sent to (stored in) the web caster at the start of the next turn. Reserve energy (H7.0) cannot be sent to (stored in) the web caster during the remainder of the turn that it was fired.

(E12.36) CYCLE: A web caster, like other direct-fire weapons, can be fired once per turn and cannot be fired within 1/4-turn of a firing on a previous turn (E1.5). Firing the weapon as a web fist (E14.0) counts as "firing" the web caster for purposes of this rule. Using the web caster as a web generator (E12.14) does not count as "firing" for purposes of the delay, but a web caster cannot be fired and used as a generator on the same turn (E12.143).

(E12.4) FIRING PROCEDURE

(E12.41) TARGET AREA: The web caster is used to create webs within a target area. This target area can consist of up to five hexes, all of which must be within the weapon's firing arc and in a straight line (E12.25), and must individually satisfy the requirements of (E12.5). The weapon cannot fire at a range of zero; exception: (E12.21). The web caster unit is not required to keep a free standing web in its firing arc during the four-impulse period when it is solidifying and has no connection to the web after firing it; exception: (E12.21).

(E12.42) PROCEDURE: The firing unit designates the target hex or hexes. Each unit of power stored in that web caster at the time it is fired produces ten "points" of web. Each point of web is equivalent to one strength point of web in one hex. Thus, a maximum charge of five energy points produces 50 web points, which could create two hexes of 25-strength web or five hexes of ten-strength web or some other combination. This strength is modified by (E12.45). The target hexes are designated at the time the weapon is fired.

(E12.43) STRENGTH OF WEB: When firing a web caster and allocating its web points, all hexes of the web formed must be of equal strength. Any excess points are lost. For example, 50 web points used to create a three-hex web would create three sixteen-strength web hexes; the remaining two points are lost (or given up for ECM or other penalties). The chart below shows the strength of each hex based on the amount of energy used and the length of the web. Note that, even though more points are available, the maximum web strength of 35 points (*) cannot be exceeded.

(E12.44) WEB CASTER STRENGTH TABLE

ENERGY USED			NUMBER OF WEB HEXES CREATED				
RANGE							
1-10	11-20	21-30	1	2	3	4	5
1	2	3	10	5	3	2	2
2	3	4	20	10	6	5	4
3	4	5	30	15	10	7	6
4	5	†	35*	20	13	10	8
5	†	†	35*	25	16	12	10

† = As no more than five points of energy can be used, it is not possible to achieve these strengths at these ranges.
* = As the maximum strength of a web hex is 35, this factor is limited to that maximum.

(E12.45) RANGE ATTENUATION: The effect of the web caster is reduced if it is fired at target hexes beyond a set distance.
This is "effective range" although that will virtually always be the same as true range, the only common exception being when the ship has taken scanner damage (D6.21).
(E12.451) If the farthest target hex is one-to-ten hexes from the firing ship, there is no reduction in strength.
(E12.452) If the farthest target hex is eleven-to-twenty hexes from the firing ship, the energy in the web caster is reduced by one point. For example, if there were four points stored in the web caster, one would be lost (due to the range) and the other three used to generate 30 web points. The chart in (E12.44) includes this data for ease of use.
(E12.453) If the farthest target hex is 21-30 hexes from the firing ship, the energy in the web caster is reduced by two points. The chart in (E12.44) includes this data for ease of use.
(E12.454) The point(s) lost due to long range cannot be recovered or replaced. It is not possible to put additional energy into the web caster to compensate for this reduction. In effect, it is impossible to project more than 30 web points to areas more than twenty hexes away.
NOTE: The three numbers on each line of the Energy Used column represent the amount of energy required at ranges of 1-10, 11-20, and 21-30 hexes.

(E12.5) RESTRICTIONS AND CONDITIONS

(E12.51) RANGE: The maximum range of the web caster is 30 hexes. No target hex can be farther than 30 hexes from the firing unit.

(E12.52) WEB: A web caster may be fired out of a web hex but cannot be fired into or through a web hex, including a hex being created (by a different source) on the same impulse or a web hex that is not yet effective. Web casters cannot create web in a hex that is adjacent to another web, even to a web hex being created on the same impulse by a different source. This, of course, does not include the web hexes being created by the same web caster at the same time (impulse). However, an anchored web created by a web caster could be extended by ships. See (E12.24).

(E12.53) WEAPON EFFECTS: Web casters have various effects on some weapons.
(E12.531) Web casters cannot fire through or into an ESG field hex. Web cast at an ESG field hex fails to materialize (this can result in web hexes on either side of the ESG field) and the energy of the web hexes that fail to materialize is lost, i.e., the web hexes that actually form do not gain the web points of the lost web hexes. The interaction is determined at the point where the ESG is fired, not at the point where it solidifies. See also (E12.553). Note that ESG hexes that are not operating due to the presence of an earlier web (whether cast or laid) will not interfere with a cast web. This can occur when a ship with a Radius 3 ESG field is on one side of a web and a new web is cast two hexes from that web.

(E12.532) A cast web can be fired across or between a stasis field ship and something trapped in a stasis field generated by that ship, and it will break the field when it solidifies (G16.683). A unit in stasis cannot become a web anchor, even to web cast at the same point as the web that broke the field or for the web which broke the stasis field.
(E12.533) Cast web is zero strength until it solidifies and until then has no effect on any direct-fire weapons (G10.61); exception: (E12.52).

(E12.54) TERRAIN: Certain terrain types have the effect of blocking the web caster and/or degrading the cast web.
(E12.541) A web caster cannot be fired into or through a hex containing a planet (P2.321), moon (P2.232), star (P12.1), black hole (P4.23), or pulsar (P5.32).
(E12.542) A web caster cannot create a row of web with a "missing hex" when a planet blocked the line of fire (P2.321); a single weapon could cast web to either side of the planet, but not both simultaneously.
(E12.543) A web caster cannot be fired into an atmosphere or between two atmosphere hexes (P2.542). It can be fired from an atmosphere hex only if the line of fire does not pass into or through other atmosphere hexes.

NOTE: In the early editions of *Captain's Basic Set*, rule (P2.542) incorrectly refers to web casters and snares when it should refer instead to web fists.
(E12.544) A web caster can be fired through asteroid hexes but loses one web strength point from its total strength at that range (E12.43) for each hex traversed, including the target hex but not including the firing unit's hex (unless that is also the target hex). This is judged by counting asteroid hexes along the straight line path from the firing unit to each of the target hexes and using the one with the most asteroid hexes, the remaining points are then divided between the web hexes. A web caster cannot be fired into a hex that the firing ship cannot lock-on to. See also (P3.34). Large asteroids (P3.4) do not block web caster fire, and any unit which is in the same hex as the cast web will be affected by that web, even if the unit itself is hiding behind the asteroid in a blocked shield arc (P3.43).
(E12.545) Rings (P2.223) and dust clouds (P13.0) only have an EW effect on web casters.
(E12.546) Web casters will not function in a nebula (P6.6) except as web fists (E14.0).

(E12.55) DELAYED EFFECTIVENESS: A free standing web does not become effective for 1/8 turn (four impulses), and then dissipates sixteen impulses later. For example, a web caster fires on Impulse #5, and the web becomes effective on Impulse #9 and dissipates on Impulse #25. Normal web fired from a web caster (E12.213) or laid by a web caster used as a generator is fully formed when fired (or laid). The strength of a cast web is announced when it is cast.
(E12.551) During this period, the unstabilized free-standing web does not exist and has no effect. It is not treated as a zero-strength web. The term "not effective" means just that. The unformed web has no effect whatsoever on anything except the laying or casting of other web. No web can be laid into, adjacent to, cast into, or cast through these hexes [(E12.24) and (E12.52)]. There is no (G23.85) effect on ESGs.
(E12.552) Units in a hex into which a web caster projects a web can leave that hex without penalty so long as they do so within the 1/8 turn period before the web is effective.
(E12.553) If, at the time a web comes active, it overlaps an ESG, treat this exactly as with any other ESG/web interaction [(G10.73) and (G23.85)]. Those portions of the ESG field which coexist with web hexes or which are on the opposite side of the web from the ship generating the ESG cease to function. This is judged by line of sight; the edge of a web hex will block this line of sight. These ESG hexes will function again when the web influence is removed (G23.854). Note if the web dissipates while the ESG field is active, the ESG field reforms in the Web Caster Stage (6D3) of the Sequence of Play.

(E12.56) ELECTRONIC WARFARE can affect a web caster. Use the following procedure. (This entire procedure is resolved immediately during the step when the weapon is fired):
(E12.561) STEP A: At the time of firing, the Tholian player designates the target hexes.
(E12.562) STEP B: The opposing player may then designate one of his ships that is within three hexes of any target hex. This ship (known herein as the "defending" ship) will attempt to jam the web caster's target acquisition system. (Note: a SWAC or MRS shuttle could perform this function, acting as the defending "ship," using a strength equal to that which they are currently lending their ship or fighter squadron.) A SWAC or MRS not currently committed to lending to its ship or squadron could defend against the cast web.
(E12.563) STEP C: The electronic warfare balance is then resolved as if the Tholian ship were firing at the defending ship. Include the ECM points generated by the defending ship and the ECCM points generated by the firing Tholian ship. Disregard any ECM points lent to the defending ship (including self-protection lending), but include any ECCM points lent to the firing ship. Include any natural source ECM points, but base these on the actual target hexes rather than the defending ship. Erratic maneuvering of the defending ship would have no effect. As with normal weapons fire, count any other ECM which is counted against the firing ship itself, such as the firing ship's own Erratic Maneuvering (C10.414), a poor crew (G21.111), terrain-induced penalties, or any offensive EW (G24.219) lent against the firing ship. See (E12.215). If the EW balance for the various hexes is different, use the one least favorable to the web caster.
(E12.564) STEP D: If there is an EW-shift, adjust the total number of web points by rolling a die, adding the EW-shift, and consult the following table:

Die Roll	Effect on Web
1–6	No effect.
7–8	Reduce the total number of web strength points by 50%
9–10	Reduce the total number of web strength points by 75%
11+	All web strength points are lost and no web is cast.

In all cases, calculate the number of strength points and round fractions of 0.50 or more up, 0.4999 and less down.

(E12.6) TACTICAL IMPLICATIONS

The web caster has many unique tactical implications. While a heavy weapon, it does not actually damage targets when casting web, unless used in web fist mode (E14.0). Its primary purpose is in disrupting enemy movements. Some specific applications are:

- Stopping drones and (especially) plasma torpedoes.
- Blocking the direct-fire weapons of part of the enemy fleet, thereby gaining firepower superiority.
- Breaking up an enemy fleet by laying web through the formation. This is devastating against the ISC.
- Breaking up the Kaufman Retrograde.
- Locating cloaked ships.
- Limiting the effects of a black hole or pulsar.
- Stopping attacking waves of fighters or PFs
- Isolating a key enemy ship for later attention.
- Creating a wall in front of an enemy ship.
- Cutting tractor beams.
- Creating a small shield for self-protection.
- Preventing a crippled enemy from disengaging.
- Breaking a stasis field.
- Disrupting the fire of a plasmatic pulsar device.
- Crippling a ship that is moving at high speed.
- Blocking the effects of pulsars, explosions, etc.
- Creating an opportunity to disengage by blocking pursuit.
- Creating a firewall around ships that are about to explode.
- Quickly building elements of a larger web that can be completed by ships. This requires convenient asteroids or ships to act as anchor points. Obviously any enemy who gives Tholians time to prepare for battle will have a very difficult time.

(E12.7) CAMPAIGN NOTE

Player-generated campaigns must be very cautious in employing this weapon. Allowing unrestricted production, use by non-Tholians, or a Tholian fleet not restricted to strategic defense is likely to cause severe disruption of the game system. This powerful weapon is balanced by the limited forces and goals of the Tholians; players violate these restrictions at their peril. See (U7.1) and (R7.R2).

(E13.0) THOLIAN SNARE

The Neo-Tholians were able to tell the Tholians a good deal about the technology of the web that had been previously lost. With a considerable amount of effort, the Tholians were able to modify their web generators to function (in an extremely limited way) as web casters beginning in Y183. This was provided primarily as a means of self-defense against drones and plasma torpedoes. In addition, it made hunting cloaked units much easier.

(E13.1) DEFINITION

(E13.11) CONVERSION: Any web generator (G10.0) on a Tholian warship can be converted into a snare generator for the appropriate cost (any exceptions will be noted in ship descriptions). This is often shown on SSDs as a refit (R7.R4).

(E13.12) USE: Snare generators can function as normal web generators or can function as a limited web caster (E12.0). The rules for the web caster are used except as noted below.

Snares have no capability to use web fist (E14.0).

(E13.13) DAMAGE: As the snare is simply a modified web generator, it is damaged on flag bridge hits as is a normal web generator, not on drone hits (as is a web caster).

(E13.14) FLEET LIMIT: No more than 25% of the Tholian ships in a scenario (round fractions up) in Y183, 50% of those in Y184, or 75% of those in Y185 can be equipped with snares. After Y185, almost all Tholian ships had snares. (Players are never required to use snares, or the full number available.) Snares do not count against the limit on web casters (E12.16) and vice versa.

(E13.2) OPERATION

(E13.21) GENERAL: A snare generator acts as a small web caster, with some limitations.
(E13.211) A snare generator cannot hold more than one point of power. This point of power can be allocated or reserve power applied at the point the snare is to be used (H7.2). This point of energy is held in the same manner as a web caster (E12.32).
(E13.212) A snare generator is limited to a true range of one hex. The snare cannot fire at a true range of zero or any range greater than one.
(E13.213) A snare generator can only cast free-standing web (E12.22); it cannot create anchored web (E12.21).
(E13.214) A ship cannot fire a snare unless it has active fire control and a lock-on to the target hex(es) (D6.62), but active fire control is not required to use it as a web generator.

(E13.22) WEB CAST: A snare generator can only create one ten-point or two five-point hexes of web.

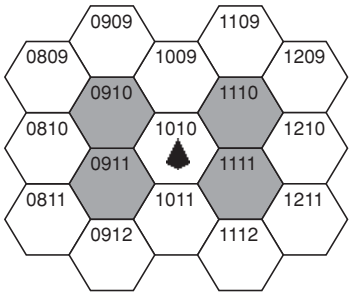
(E13.23) WEB GENERATION: A snare generator can function in all ways as a normal generator if not used to cast web in a given turn and cannot function as a caster in a turn that it was used to lay web.

(E13.24) CYCLE: A snare can be fired once per turn and cannot be fired twice within 1/4 turn. Use as a web generator does not count as "firing" for purposes of the 1/4 turn delay, but a snare generator cannot be fired and used as a web generator on the same turn.

(E13.25) POWER: If there is more than one point of power in the generator when it is fired as a snare, the other points are lost and do not add anything to the strength of the snare. Their discharge is detectable under (E1.24). Snares may begin a scenario with a point of power already allocated at Weapons Status-II or Weapons Status-III.

(E13.3) FIRING ARCS

(E13.31) BASIC ARCS: Snare generators on most Tholian ships can only fire into the R or L firing arc (due to their location on the hull), except as noted in ship descriptions. A given snare generator could create web in either or both of the two hexes beside the ship, but cannot create web in the hex in front of or behind the ship.
(E13.311) The use of a generator as a generator does not limit the firing arc of the snare on a subsequent turn.
(E13.312) In the case of some ships, specific information on which web generators can be converted to snares and what arcs they will have is provided in their description.
EXAMPLE: A Tholian PC is in hex 1010 facing A. Its right web/snare generator could create a free-standing web in hexes 1110 and/or 1111. The left web/snare generator can create free-standing web in hexes 0910 and/or 0911.



(E13.32) EXCEPTIONS: The snare on the WT and small Q-ship can only fire into the hex directly to the rear.

(E14.0) WEB FIST

The web caster (E12.0) has a direct-fire application known as web fist. Instead of casting a band of web, the energy is focused into a narrow area which physically impacts on the target, causing damage. The damage caused by this weapon is not related to the movement of the target, nor is it the same type of effect as running into a web (G10.59). Snares cannot be fired as web fists.

(E14.1) ARMING

(E14.11) PROCEDURE: The web caster is armed normally (E12.3), and the decision to expend that energy as a web fist instead of as a cast web is made in the Fire Decision Step and announced in the Fire Declaration Step of the Direct-Fire Weapons Segment.

(E14.12) ALL STORED POWER MUST BE USED: Firing a web caster as a web fist expends all of the power held in the web caster (E12.34).

(E14.13) OVERLOAD: Web fists cannot be overloadec (E12.33).

(E14.14) CYCLE: Firing a web caster as a web fist counts as firing it as a web caster for purposes of web caster recycle rates (E12.36), i.e. it can be fired (cast or fist) once per turn and cannot be fired twice within eight impulses.

(E14.2) FIRING

(E14.21) DIRECT-FIRE WEAPON: The web caster fires a web fist using the standard rules for direct-fire weapons, not the special rules for a web caster (except as noted).
(E14.211) The target receives the benefit of its EW (including EW lent to it) as with any other direct-fire weapon.
(E14.212) A web fist can be fired through or into any hex that a disruptor can be fired through or into. The restrictions of (E12.54) do not apply to web fists. See (E14.254).
(E14.213) A web fist causes damage immediately; there is no delayed effectiveness as per (E12.55).
(E14.214) Unlike cast web, a web fist can be fired through an ESG without any effect to the sphere or the web fist.
(E14.215) A web fist is not penalized when firing at drones. It operates under (FD1.51).

(E14.22) PROBABILITY OF HIT: The probability of a hit is resolved by the following table:

RANGE	1-10	11-20	21-30
HIT	1–4	1–3	1–2
MISS	5–6	4–6	3–6

The probability of a hit is based on effective range (D1.4).

(E14.23) FIRING POINT: When firing a web fist, the web caster fires during the Direct Fire Weapons Step, and NOT during the Web Caster Fire Step. Its damage is combined with all other direct-fire weapons.

(E14.24) FIRING ARC: The web fist can be fired only within the firing arc of the web caster.

(E14.25) RESTRICTIONS
(E14.251) A web caster can fire a web fist under passive fire control.
(E14.252) A web fist cannot be fired at a true range of zero.
(E14.253) There is no feedback damage from a web fist.
(E14.254) A web fist cannot be fired through a web.
(E14.255) A web fist fired into an atmosphere loses 25% of its strength per hex of atmosphere as per (P2.542). Multiply the damage points in (E14.3) by 0.75 (or 0.5, or 0.25, as appropriate), and round fractions of 0.50 and more up, 0.4999 and less down.
(E14.256) A web fist cannot damage plasma torpedoes (FP1.61).

(E14.3) DAMAGE RESOLUTION

(E14.31) CHART: A web fist causes an amount of damage proportional to both the range and the amount of energy held by the web caster at the time it fires a web fist, as shown on the following chart.

RANGE	1-10	11-20	21-30
ENERGY USED			
1	2	0	0
2	4	2	0
3	6	4	2
4	8	6	4
5	10	8	6

Damage scored is based on true range (D1.4).

(E14.32) WEB: The firing of a web fist from a web caster does not, in any way, result in "web" being placed or formed on the map.

(E15.0) WEB BREAKER

Seltorian scientists developed the web breaker in the original Tholian Home Galaxy from the earlier shield cracker (E16.0), and used it in their revolution against the Tholian Will. The ships of the Seltorian Tribunal that arrived in our galaxy were fitted with this weapon.

The device operates by generating a countervailing frequency which partially (or completely) counteracts the web vibrations, causing a reduction in strength.

Web breaker can ONLY affect webs. It cannot affect any other target. Web breaker can be fired as a shield cracker (E16.0), in which case it can only affect shields.

(E15.1) DESIGNATION

(E15.11) SSD: Each box on the SSD labeled "WB" represents one web breaker. Note that the weapon is actually a shield cracker fitted to fire in web breaker mode. This is done to avoid confusion. Should SSDs be published with "SC" (shield cracker), this will indicate weapons which cannot fire in the web breaker mode.

(E15.12) DESTRUCTION: Web breakers are destroyed on "drone" hits on the Damage Allocation Chart.

(E15.13) TECHNOLOGICAL LIMITATIONS: Web breakers are extra-galactic technology (in the Milky Way). Even with captured examples, they cannot be reproduced or copied by any other empire.

Web breakers cannot be used in Orion or WYN option mounts; exception: see (R15.Z2).

Web breakers cannot be mounted on PFs, fighters, defense satellites, armed freighters, drones, shuttles, or captor mines.

(E15.14) REPAIR COST: The cost to repair a damaged web breaker is twelve repair points (D9.7). As the web breaker is unique to the Seltorians, it cannot be repaired by non-Seltorian facilities. It can be hastily repaired (G17.5) as a shield cracker for six points. (Tholian facilities in the old galaxy can repair Seltorian shield crackers, but not web breakers. Seltorian facilities cannot repair web generators or casters.)

(E15.15) BPV: Web breaker is, effectively, a refit of the shield cracker. If using a ship in the old galaxy which has shield crackers but not web breakers, reduce the BPV by two points per weapon.

(E15.2) ARMING PROCEDURE

(E15.21) ENERGY: The web breaker is armed with two points of energy (from any source) during a single turn (or different turns). It can be fired on the turn of arming. No cooling is required between firings; the web breaker can be fired once every turn, subject to the normal eight-impulse delay (E1.50). It cannot be armed with fractional points of power.

(E15.22) HOLDING: Energy in web breakers can be held at no cost (up to the maximum arming of two points), but each point is lost if not used within five turns of being allocated (or at the end of the fourth subsequent turn if from reserve power). Lost power is treated as an undetectable discharge. At WS-II or WS-III, the weapon begins the scenario holding two points of power (as if charged on "Turn Zero").

(E15.23) RESERVE POWER: A web breaker can be armed with reserve power (although not on a turn in which it has already fired) and could then be fired immediately (or during any later impulse of the turn) or held.

(E15.24) FIRING MODE: The decision whether to fire a given web breaker in that mode or as a shield cracker (E16.0) is made at the instant of firing. NOTE: In some of the scenarios set in the original home galaxy, some Seltorian ships might not be able to fire this weapon in the web breaker mode.

(E15.25) OVERLOADS: There is no overload function for web breaker.

(E15.3) COMBAT PROCEDURE

(E15.31) TYPE: Web breaker (mode) is a direct-fire heavy weapon. It fires in the Marine Activity Stage (6B7) at the end of the Shield Cracker Step; see (E16.2).
(E15.311) Web breakers can ONLY affect webs; they cannot affect any other target. Web breakers cannot be linked to aegis. Web breakers cannot damage planets or any other terrain. Web breakers do not cause energy to be absorbed by PA panels.
(E15.312) If several web breakers are fired simultaneously at the same web, their effect is cumulative.
(E15.313) Web breakers cannot counter the fire of a web fist (E14.0).

(E15.32) PROCEDURE: The fire of a web breaker is resolved on the WEB BREAKER COMBAT RESOLUTION TABLE, which is found below and is repeated on the SSDs of ships armed with this weapon. The firing procedure is as follows:

Assuming that the weapon is armed, designate the specific web hex which is the target.

Roll one die and cross-index the die roll with the range to the web hex.

The number found at the cross-index on the table is the number of web strength points which are immediately subtracted from the strength of the web. A web reduced to zero is destroyed immediately (it cannot be reinforced); any excess points of web breaker damage are simply ignored. This is expressed in terms of net aggregate

strength. A web six hexes long with a strength of twenty has 120 net aggregate strength points, and a result of fifteen would reduce this to 105 and would reduce the effective strength of the web to seventeen points (not to five).

(E15.33) WEB BREAKER COMBAT RESOLUTION TABLE

	RANGE									
DIE ROLL	**0–1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	20	19	18	17	15	13	11	9	7	5
2	18	17	16	15	13	11	9	7	5	3
3	16	15	14	13	11	9	7	5	3	1
4	14	13	12	11	9	7	5	3	1	0
5	12	11	10	9	7	5	3	1	0	0
6	10	9	8	7	5	3	1	0	0	0

EXAMPLE-CAST WEB: A Seltorian CA (which mounts two web breakers) is engaged in battle with a Neo-Tholian NCL in the Neutral Zone. The Seltorian CA is approaching the Neo-Tholian ship at high speed. The Neo-Tholian ship fires its web caster with maximum power at a range of seven, creating a web four hexes across, each with a strength of twelve points. (It has a total of 50 aggregate strength points, although only 48 count.) The Seltorian cruiser, which cannot avoid the web and does not wish to risk an HET, waits until the last moment and fires its web breakers at Range 1, rolling a two and a four. The die roll of two causes eighteen points, and the die roll of four causes fourteen points, for a total of 32 points of reduced web strength. These 32 points are subtracted from the 50 points, leaving eighteen. This leaves the original twelve-point free standing web at a strength of four points, enough to slow down the Seltorians but not enough to cause a breakdown due to high-speed impact.

EXAMPLE-FIXED WEB: A Seltorian squadron is supporting a Klingon attack on a Tholian BATS. The BATS has the usual three-tiered "wedding cake" web, and the outer web (five hexes from the base, total length 30 hexes) has a strength of twenty (for a total of 600 aggregate strength points). The Seltorian squadron consists of a CA, a DD, and two FFs, with a total of five web breakers. All ships have positioned themselves eight hexes from the base (taking advantage of the fall-off in the phaser-4 table), i.e., three hexes from the web. All of the ships fire, with die rolls of one, two, four, five, and six. These produce eighteen, sixteen, twelve, ten, and eight web damage points, respectively, for a total of 64. This reduces the web's net strength total from 600 to 536, and the strength of the web is reduced from twenty to seventeen. (This assumes that the Tholians do not add more power to counteract the loss. Even so, if the Tholians cannot add about 32 points of energy to the web each turn, the web will eventually collapse.)

(E15.34) WEB: Web breakers can be fired at a web hex and can be fired from a web hex, but cannot be fired through one or more web hexes.
(E15.341) Web breakers cannot disrupt the webs holding together a pinwheel (C14.23).
(E15.342) Web breakers can be fired at a cast web which has not yet solidified. The effect will be the same as if the web had solidified. When the web solidifies, it will be at the reduced strength calculated by (E15.33).

(E15.35) ELECTRONIC WARFARE has no effect on web breakers, except for the penalties assessed on the firing ship for its poor crew (G21.111) or its Erratic Maneuvers (C10.41). Terrain-induced EW does not affect web breakers.

Note: Shield crackers ARE affected normally by all EW.

(E15.36) RANGE: The maximum range is ten hexes. If the effective range is different from the true range (D1.4), use the effective range to access the table. The web breaker cannot be fired at a true *or* effective range of greater than ten. (Even a legendary officer cannot extend this range.)

(E15.37) TERRAIN: Terrain-induced EW does not affect web breakers, but does affect shield crackers.
(E15.371) ATMOSPHERE: Web breakers (and shield crackers) can be fired into, out of, or through atmosphere hexes with no atmosphere effects. Since web cannot be generated in an atmosphere, the utility of this ability is limited.
(E15.372) A web breaker cannot be fired (even in shield cracker mode) through a hex containing a planet (P2.321), moon (P2.232), star (P12.1), black hole (P4.23), or pulsar (P5.32). It can be fired into or out of such a hex.
(E15.373) NEBULA: Web breakers cannot function in a nebula (P6.0). This includes the shield cracker mode.

(E15.38) PASSIVE FIRE CONTROL: Web breakers can be fired under passive fire control to a maximum true range of five hexes (D19.23).

(E15.39) OTHER EFFECTS
(E15.391) Web breakers can be fired through ESG hexes (G23.0) and ignore them.
(E15.392) Web breakers cannot affect, degrade, or put power into PA panels.

(E16.0) SHIELD CRACKER

This was the original Seltorian auxiliary weapon. It is a function of the web breaker, or rather the web breaker is a function of the shield cracker. The shield cracker only affects shields; it has no effect on any other target.

The Seltorians used this weapon to knock down the shields of rebellious ships (96% of which were some version of an armed freighter) in order to send in Marines and capture them. This allowed the ships to be returned to their original duties without economic loss to the Empire.

The Tholians did not use this weapon because of the difficulties in conducting boarding operations on ships with radically different environments.

(E16.1) MODE: Shield cracker is a firing mode of the web breaker weapon; see (E15.24). All data from (E15.0), such as firing rates, energy cost, repair cost, technological limitations, etc., applies to the combined cracker/breaker weapon. Note particularly that shield crackers cannot be fired in a nebula (E15.373). EXCEPTION: Shield cracker is affected by all EW rules as any other direct-fire weapon is affected (E15.35).

(E16.2) FIRING PROCEDURE: Shield cracker is a direct-fire heavy weapon. It is fired in the Marine Activity Stage just after the Operate Shields Step. Note that EW adjustments are in the Direct Fire Stage, so any EW adjustment in anticipation of shield cracker firing has to be made during the previous impulse. However, there are adjustments in 6B3.

(E16.3) SHIELD CRACKER COMBAT TABLE

RANGE	0	1–2	3–5	6–10
HIT #	1–6	1–5	1–4	1–3
DAMAGE	4	4	4	4

(E16.4) SHIELD DAMAGE ONLY: Shield crackers can only damage shields and power absorber panels. They cannot damage any other type of target. They cannot sweep asteroids, sweep mines, damage seeking weapons or shuttles, bombard planets, etc.
(E16.41) Shield Crackers affect power absorber panels as other weapons do. They cause degradation and will fill the panels with energy as would any weapon. However, as Shield Crackers cannot cause internal damage, any Shield Cracker damage points which penetrate or leak through the power absorber panels are ignored and cause no damage.'
(E16.42) Shield Crackers treat active reinforcement (whether General or Specific) as shield boxes.

(E16.5) REINFORCEMENT INTERFERENCE: If a shield is reduced to zero strength by a shield cracker, power used to raise General Reinforcement (G8.23) in response to a boarding attempt on the same impulse will not block transporters through the shield downed by shield cracker fire.
(E16.51) A shield cracker fired at a shield that is already down will not score any internal damage, but will prevent that shield from being raised or general shield reinforcement (G8.23) being applied to block a boarding attempt. This rule also applies in the case of a shield cracker fired at a shield that was already down or dropped.
(E16.52) There is no restriction on using reserve power to specifically reinforce shields during any direct-fire stage, including on the same impulse the shield cracker fired. The only restriction is on the use of General Shield Reinforcement (E16.5) which cannot be raised even if the shield itself was not downed by the shield cracker.

(E17.0) PARTICLE CANNONS

Used as the primary armament of the Seltorians (and the original Tholians in their home galaxy), the particle cannon is a rapid-fire weapon that uses a very tightly controlled energy discharge.

(E17.1) DESIGNATION

(E17.11) SSD: Each "PC" box on the SSD represents one particle cannon. Each is recorded, armed, and fired separately.

(E17.12) DESTRUCTION: Particle cannons are destroyed on Torpedo hits on the Damage Allocation Chart (D4.21)

(E17.13) COST TO REPAIR: Particle cannons cost eight points to be repaired fully (D9.7). They can be hastily repaired by (G17.5) for four points, but can fire only once per turn with a maximum range of ten hexes and still have the twelve impulse delay of (E17.33) for firing on a subsequent turn. The capacitor of a hastily repaired particle cannon has a maximum capacity of three points of power (E17.22). Particle cannons can be repaired at facilities of the empire owning the ship, but not at foreign facilities. Prior to the Seltorian Revolution, Tholians and Seltorians could repair each other's particle cannons.

(E17.14) TECHNOLOGICAL LIMITATIONS: Particle cannons are extra-galactic technology. Even with captured examples, they cannot be reproduced or copied by any empire.
(E17.141) Particle cannons cannot be used in Orion or WYN option mounts. However, see (R15.Z2).
(E17.142) Particle cannons cannot be used by Tholians (even Neo-Tholians) in our galaxy because the technology was lost to the Tholians. Tholians in their home galaxy use particle cannons instead of disruptors (and can never have disruptors); Tholians in this galaxy treat particle cannons as extra-galactic technology.

(E17.2) ARMING PROCEDURE

(E17.21) ARMING COST: Particle cannons do not use the typical arm/fire system of galactic weapons. Energy is from any source allocated into a capacitor, and energy for each shot is taken from that capacitor at the time of firing.
(E17.211) Each capacitor is linked to and part of a specific particle cannon. Energy in one PC's capacitor cannot fire another PC. Energy cannot be transferred between the capacitors of different PCs. If a PC is destroyed, its capacitor is destroyed with it (and would later be repaired with it).
(E17.212) The cost of each shot fired is as follows:

- Overloaded shot (first or second shot of turn) ..... 3 points
- Standard shot (first shot of turn) ..... 2 points
- Standard shot (second shot of turn) ..... 1 point

(E17.22) HOLDING: The particle cannon's capacitor can hold a maximum of five points of energy at any one time. This can include reserve and allocated power. Reserve power cannot be sent to the capacitor if it exceeds the limit, even if the capacitor is firing at the same instant.
(E17.221) The ship must pay a holding cost at the start of each turn equal to one-half of the energy in each particle cannon capacitor. This holding energy must be allocated; it cannot come from the reserve or from the capacitor. If less than the required energy is paid, some of the energy in the capacitor will be discharged to restore the proper balance (E1.24). This discharge can be detected and must be announced (including the amount of power discharged). There is no provision to voluntarily discharge power in a capacitor except by voluntarily failing to pay the holding cost. Particle cannons are single-turn arming weapons, and a player can allocate reserve power (H7.13) to a particle cannon which discharged energy under this rule in mid -turn to fire that weapon as a normal shot or as and overload within these rules. The discharge of energy during energy allocation does not count as firing the weapon under (E17.33).
(E17.222) At WS-0, the capacitor has no energy. It can hold up to two points of power at WS-I, up to three points of power at WS-II, and up to five points of power at WS-III. A Seltorian player may choose to have less energy in his capacitors than allowed by his weapons status.
(E17.223) The capacitor can hold (but not use) fractional points of energy. Doing so will, however, complicate the bookkeeping considerably.

(E17.3) FIRING PROCEDURE

(E17.31) FIRING PROCEDURE: The number of damage points scored by a particle cannon is determined by the range and a die roll. Refer to the (E17.35) PARTICLE CANNON FIRING TABLE, which is found on ships equipped with the weapon and is reproduced below. Roll a single die; if the result is within the probabilities listed, the weapon has hit the target and scored the designated damage. If the result is not within the Hit# listed, the weapon missed and scores no damage.

(E17.32) RANGE EFFECTS: When firing at a target without a lock-on, use the effective range for the hit probability and the true range to determine the damage scored. Particle cannons have a maximum range of 30 hexes, and cannot fire at a true range of zero. Exception: See (E17.42).

(E17.33) FIRING RATE: A given particle cannon can be fired once per twelve impulses and can be fired up to twice per turn. Discharging energy from the capacitor does not reset the twelve-impulse delay. The twelve-impulse delay of the particle cannon (including firings on different turns) supersedes the eight-impulse delay of (E1.50); do not add the delays together.

EXAMPLE: A Seltorian cruiser begins the scenario at WS-II with three points in each capacitor. It pays 1.5 points per PC to hold this energy. During Turn #1, another one point per PC is provided by allocated power, bringing each to four points (the most that can be fired in a single turn). The PCs fire an overloaded shot, expending three of the four points in each capacitor. Twelve impulses later, it uses the last point in each capacitor to fire a standard shot from its PCs.

(E17.34) TYPE: The particle cannon is a direct-fire heavy weapon. It fires in the Direct-Fire Weapons Fire Stage (6D2) of the Sequence of Play (Annex #2).

(E17.35) PARTICLE CANNON FIRING TABLE

RANGE	0	1	2	3–4	5–8	9–15	16–22	23–30
HIT #	1–6	1–5	1–4	1–4	1–3	1–3	1–2	1–2
DAMAGE	NA	4	4	3	3	3	2	1
OL DMG	8	8	8	6	6	NA	NA	NA

(E17.4) OVERLOADS

(E17.41) POWER: The particle cannon can fire overloaded shots; this requires three points of power per shot fired in this manner. Only one shot per cannon per turn can be fired as an overload due to safety requirements. Either the first or second shot (E17.33) may be overloaded. Consecutive shots over a turn break [at the prescribed interval in (E17.33)] may both be overloaded or non-overloaded or one of each.

(E17.42) RANGE AND EFFECT: An overloaded particle cannon cannot be fired beyond a range of eight and can fire at a range of zero. The damage of an overloaded particle cannon shot is doubled. Do not calculate this damage for yourself; use the overloaded (OL) damage line in (E17.35).

(E17.43) NUMBER OF SHOTS: Particle cannons can fire up to two shots a turn (E17.33), but cannot fire a shot within twelve impulses of a previous shot, including a shot fired on a previous turn. Either shot in a given turn, but not both shots, can be overloaded, and the overload energy can be power that was allocated to the particle cannon's capacitor, or drawn from reserve/battery power at the instant the shot is fired. Note that reserve power might be allocated to the capacitor in mid-turn to allow an overload shot later in that turn (H7.132).

(E17.44) FEEDBACK: An overloaded particle cannon firing at Range 0 will do two points of feedback damage on the facing shield of the firing ship per hit scored. Only the firing ship receives feedback damage. This does not reduce the damage to the target in any fashion. See (E17.32).

(E17.45) IRREVERSIBILITY does not apply to the concept of overloading a particle cannon (unlike all other overloadable weapons in the game system at this time). The decision to fire a given PC as a standard or overloaded shot is made at the instant of firing.

EXAMPLE: A Seltorian destroyer is closing on an enemy ship and is within overload range. It has three points of power in each of its PCs. It could fire these as overloads, using all three points of power. Or it could fire them as standard loads (using only two points) and use the other point of power to fire a standard shot later in the turn (or a subsequent turn). The Seltorian player decides to fire standard shots in order to have a second shot from each PC to use against approaching fighters later in the turn. He could have fired the PCs overloaded and then used reserve power for a second shot, but reserve power is always a limited commodity on a starship.

(E17.5) SPECIAL CASES

(E17.51) PA PANEL INTERACTION: Particle cannons do not have a lower leak function (D10.332) against PA panels as disruptors do.

(E17.52) TERRAIN: Particle cannons cannot be fired through a hex containing a planet (P2.321), moon, star (P12.1), black hole (P4.23) or pulsar (P5.32). They can be fired into such a hex. They can be fired through asteroid hexes with the usual EW penalties.

(E17.53) ATMOSPHERE: Particle cannons lose one point of damage per hex of atmosphere they are fired through, as disruptors do (P2.543).

(E17.54) MODIFIER AGAINST DRONES: The particle cannon is penalized as a heavy weapon (FD1.52).

(E17.55) WEBS: Particle cannons have no effect on webs. They are treated as any other direct-fire heavy weapon in that regard. They cannot be fired through webs, even by Tholians.

(E17.56) NON-VIOLENT COMBAT: Particle cannons can use non-violent combat (D6.4).

(E18.0) WARP-AUGMENTED RAIL GUN

This weapon is the primary heavy armament of the Jindarians. Its principle use was to "crack" asteroids discovered to be rich in mineral ores in order to make mining it more efficient. The warp-augmented rail gun (WRG) fires a solid shot of energized neutronium at a speed of warp 9.95. As the material is not shielded, friction on the material from chance impacts with matter present even in the vacuum of space results in its degradation over range. Shots fired by the warp-augmented rail gun are directed to their targets at the last moment by a "warp-magnetic twist" just as they "leave the barrel"; the weapon itself is incapable of being shifted in any way. This results in a somewhat limited arc of fire, but enhances the concealment of the weapon as there is no need for mechanical systems on the surface of the asteroid itself.

The similar light rail gun (LRG) (E18.6) is used by fighters, fast patrol ships, destroyers, and frigates. The medium rail gun was used by the size class 3 metal hull ships built by the Jindarians.

(E18.1) DESIGNATION

(E18.11) SSD: Each WRG box on the SSD is one warp-augmented rail gun. Each is recorded and fired separately.

(E18.12) DESTRUCTION: Warp-augmented rail guns are destroyed on Torpedo hits on the Damage Allocation Chart (D4.21).

(E18.13) COST TO REPAIR: Warp-augmented rail guns cost nine points to repair. They can be hastily repaired as MRGs for seven points or as LRGs for four points. They can only be repaired by Jindarians; no other empire can build or repair a warp-augmented rail gun.

(E18.14) TECHNOLOGICAL LIMITATIONS: WRGs are huge systems and cannot be mounted on anything smaller than an asteroid. No other empire ever used them. This expands the limits in (U7.2).

(E18.15) HIDDEN MOUNTS: All weapons on Jindarian ships are mounted using a form of (D17.4), Concealed Weapons, but this concealed status has no effect on their ability to fire (D17.742). Because this concealment is inherent to the construction of Jindarian ships, the weapons cannot be detected unless they fire or Tactical Intelligence Level M (not K) is gained on the asteroid (D17.741). This concealment is included in the BPV of the Jindarian ships.

(E18.2) ARMING PROCEDURE

(E18.21) ARMING COST: A warp-augmented rail gun requires three points of warp power on each of two turns before it can be fired, it can be fired on the second turn of arming. The first turn's arming energy can be allocated or be provided from reserve warp power, but the weapon cannot be fired until eight impulses after the first turn's energy was provided. Example, if an WRG begins arming on Impulse #26 it cannot fire any earlier than Impulse #2 of the subsequent turn. WRGs can also be loaded as MRGs or LRGs at a reduced cost, see (E18.6) and (E18.7).
(E18.211) A WRG can fire every turn as an LRG by paying the costs to fire as an LRG. A WRG that begins arming as an LRG can be converted into an MRG or a full WRG first turn of arming if it is not fired and reserve power is used to apply the additional energy required.
(E18.212) A WRG can fire as an MRG by paying the costs to fire as an MRG, this might be done to save energy as the MRG is also a two-turn arming weapon. A WRG that begins arming as an MRG can be converted into a full WRG first turn of arming if it is not fired and reserve power is used to apply the additional energy required.

(E18.22) HOLDING: If a warp-augmented rail gun is not fired by the end of its second turn of arming, it can be held and fired during the following turn, or any subsequent turn, at the cost of one point of allocated power from any source. This holding energy must be paid during the Energy Allocation Phase of the turn, and if it is not paid, the weapon is discharged (E1.24).

Note that as WRGs are multi-turn arming weapons, they are held armed at WS-III (S4.13).

(E18.23) OVERLOADS: WRGs cannot be overloaded.

(E18.3) FIRING PROCEDURE

(E18.31) FIRING PROCEDURE: The number of damage points scored by a warp-augmented rail gun is determined by the range and a die roll. Refer to the (E18.35) WARP-AUGMENTED RAIL GUN FIRING TABLE, which is found on ships equipped with the weapon and is reproduced below. Roll a single die and if the result is within the probabilities listed, the weapon has hit the target and scored the

designated damage. If the result is not within the Hit# listed, the weapon missed and scores no damage.

See (E18.54) regarding plasma torpedoes.

(E18.32) RANGE EFFECTS: When firing at a target without a lock-on, use the effective range for the hit probability and the true range to determine the damage scored. Warp-augmented rail guns have a maximum range of 35 hexes.

(E18.33) FIRING RATE: A warp-augmented rail gun can fire once every other turn, but not within a quarter-turn (eight impulses) of a previous offensive firing as an LRG (E18.211) or the end of a period of defensive firing [see (E18.423)].

(E18.34) TYPE: The warp-augmented rail gun is a direct-fire heavy weapon. It fires in the Direct-Fire Weapons Fire Stage (6D2) of the Sequence of Play (Annex #2).

(E18.35) WARP-AUGMENTED RAIL GUN FIRING TABLE

RANGE	0	1-5	6-10	11-15	16-20	21-25	26-30	31-35
HIT#	1-6	1-5	1-5	1-4	1-4	1-3	1-3	1-2
DAMAGE	20	17	14	11	8	5	2	1

See (E18.5) Special Cases.

(E18.4) RAPID FIRE (DEFENSIVE MODE)

Warp-augmented rail guns have a capability to rapidly spew smaller masses (termed "pellets") into space in a clustered pattern. This system was inefficient, and virtually ineffective, for use against ships (size 5 and larger), but was highly effective as a means of defense against fighters and seeking weapons. (The hulls of shuttles and drones simply were not as thick as the hull of a ship, and a single impact could be devastating.)

(E18.41) POWER: A warp-augmented rail gun can fire once every other turn in defensive mode, but not within a quarter-turn (eight impulses) of the end of a previous period of defensive firing (E18.31) or of an offensive firing as an LRG (E18.211). To be used in rapid-fire mode the weapon must be fully armed as per (E18.21). The decision as to whether a given WRG is fired in offensive or rapid-fire mode is made at the point where the weapon is fired.

(E18.42) LIMITATIONS: If a warp-augmented rail gun is designated as using "rapid fire", it does so for eight consecutive impulses unless destroyed or voluntarily inactivated by the Jindarian player. The decision to fire a given WRG in defensive mode is made at the instant of firing.

(E18.421) A warp-augmented rail gun being held (E18.22) can be fired in this mode.

(E18.422) A ship using Erratic Maneuvers cannot use rapid fire mode as the additional spread of the pattern by the ship's own maneuvers would make it ineffective.

(E18.423) Note that firing can extend over a turn break, but if it does extend over a turn break, it can begin arming on the current turn even though it is still firing. I.e., if the weapon began rapid-fire mode during Impulse #26 of Turn #2 and fired on Impulse #1 of Turn #3 (the eighth impulse), it (the given weapon) would be able to begin arming again during Energy Allocation of Turn #3.

(E18.43) EFFECT: During the eight-impulse period when the warp-augmented rail gun is using rapid fire, any seeking weapons and shuttles approaching the ship through that warp-augmented rail gun's firing arc will be affected as described below. Every size-6 and size-7 target (not including mines, defense satellites or cloaked targets) within the range and firing arc will be attacked every impulse during rapid firing.

(E18.431) DRONES: Roll a single die for each drone within four hexes of the ship each impulse. On a die roll of one or two, the drone has been hit and is destroyed. This is irrespective of the number of damage points required to destroy the drone, including any armor modules it is carrying.

(E18.432) PLASMAS: On each impulse that a given plasma torpedo is moving in the zone of a warp-augmented rail gun on rapid fire, roll a single die for that plasma torpedo and subtract that much damage from the warhead (E18.54).

(E18.433) SHUTTLES: For each impulse that a given shuttle is inside the zone of a warp-augmented rail gun in rapid fire mode, roll one die. If the result is a one-to-three, roll two dice to determine the number of damage points (two-to-twelve) scored on that shuttle. A result of four-to-six indicates a miss.

(E18.434) OTHER TARGETS: The pellets fired by a warp-augmented rail gun in rapid fire mode are simply too small to have any effect on anything other than a seeking weapon or shuttle. They have no effect on cloaked units, mines, planets, or asteroids. They have no effect on ESGs (and will indeed operate through ESGs, which have no effect on them).

(E18.435) JINDARIAN units will be attacked. This is an exception to (D1.5). There is no capability to selectively omit targets in the engagement zone from attack.

(E18.44) RANGE: A warp-augmented rail gun used in rapid fire mode can only affect shuttles and seeking weapons that are at a range of four or less from the firing ship.

(E18.45) ELECTRONIC WARFARE: A warp-augmented rail gun used in rapid fire mode is not affected in any way by electronic warfare.

(E18.46) FIRE CONTROL: Rapid fire mode requires the use of active fire control (D6.6) and a lock-on to the target units (D6.11). It cannot be used with passive (D19.0) or low power fire control (D6.7). If the fire control is disrupted (D6.68) during firing, all subsequent firing impulses are lost immediately.

(E18.47) RAPID FIRE OVERLAP: If the firing arcs of two rail guns on a single ship with separate firing arcs overlap (such as an RA and an R firing arc, but not two with RA arcs), only one rail gun can fire in defensive mode on any valid targets in the overlap hexes (i.e., along that hex spine). The Jindarian player selects which rail gun will fire along the spine on each given impulse, and he can switch between two such guns on subsequent impulses.

Note that if two weapons, each with the same firing arc (e.g., RA), are firing, each would attack each target once in each impulse.

This rule does not apply to normal firing mode or to WRGs on different ships.

EXAMPLE: A Jindarian heavy cruiser is in 2215, facing A. A seeking weapon is in 2016. (The facing and target of the seeking weapon are not relevant.) The L+LF and RA WRGs are firing defensively. Only one of them can attack that specific seeking weapon, even though it is in the arc of both of them. If the ship had been a dreadnought, it could have used both of its RA WRGs to attack the seeking weapon, but not one RA and one L+LF weapon.

(E18.5) SPECIAL CASES

(E18.51) TERRAIN: Warp-augmented rail guns are severely affected by several terrain types due to the increased friction within such zones.

(E18.511) ATMOSPHERE: A warp-augmented rail gun's warhead is halved (round fractions down) if it passes into or through a hex of atmosphere (P2.5). If it passes into a second hex of atmosphere, it will be totally degraded and will not score any damage on a target in such a hex. The halving occurs when the warhead enters the hex, including the instant of firing. This rule applies even if the warp-augmented rail gun is part of a base built on a planet with an atmosphere [exception to (P2.722)]. A warp-augmented rail gun cannot use rapid fire into or out of an atmosphere.

EXAMPLES: If fired at a range of zero at another unit in the same atmosphere hex, the warhead would have a strength of ten.

If fired at a target in an adjacent atmosphere hex, the warp-augmented rail gun would not score any damage if the firing ship was also in an atmosphere hex or would score eight points of damage (assuming a hit) if the firing ship was not in an atmosphere hex.

If fired at a range of fifteen at a unit in an atmosphere hex with no other intervening atmosphere hexes, the warhead would score five points of damage (assuming a hit).

(E18.512) ZONES: A warp-augmented rail gun's warhead is reduced by 25% (fractions rounded down) at each range bracket if it is fired inside of a radiation zone (P15.0) [including near a neutron star (P15.5) or ion storm (P14.1)], nebula (P6.0), or heat zone (P10.0)

[including near a white dwarf (P10.5)]. Use the following table. A warp-augmented rail gun cannot use rapid fire in these terrain types.

(E18.35) WARP-AUGMENTED RAIL GUN FIRING TABLE

RANGE	0	1-5	6-10	11-15	16-20	21-25	26-30	31-35
HIT#	1-6	1-5	1-5	1-4	1-4	1-3	1-3	1-2
DAMAGE	15	12	10	8	6	3	1	0

(E18.513) DUST: A warp-augmented rail gun's warhead is reduced by 50% (fractions rounded down) at each range bracket if fired through a dust cloud (P13.0). Use the following table. If the dust cloud is an intense one (P13.5), subtract an additional point from the strength of the warhead before determining damage. It is theoretically possible that a given dust cloud could be so intense that a warp-augmented rail gun could not fire through it at all, but it is very unlikely that a Jindarian ship would enter such a cloud. Dust clouds do not affect warp-augmented rail guns in rapid fire mode as the pellets beyond Range 4 have spread into a pattern too wide to affect anything.

(E18.35) WARP-AUGMENTED RAIL GUN FIRING TABLE

RANGE	0	1-5	6-10	11-15	16-20	21-25	26-30	31-35
HIT#	1-6	1-5	1-5	1-4	1-4	1-3	1-3	1-2
DAMAGE	10	8	7	5	4	2	1	0

(E18.514) OTHER: Including EW effects, warp augmented rail guns are affected by the following as any other direct-fire weapons: asteroids [(P3.3) and including (P3.25) and rings (P2.223)], black holes (P4.23), and pulsars (P5.32). Any item not listed or defined in its own rule as having an effect has no effect.

(E18.52) SYSTEM INTERACTIONS: Warp-augmented rail guns have various interactions with other systems:
(E18.521) ESG: Warp-augmented rail gun fire is not affected by, and does not affect, ESGs. The two systems ignore each other in the same manner as a probe fired as an emergency weapon (G5.37). See also (E18.434).
(E18.522) WEB: Warp-augmented rail guns interact with webs as any other direct-fire weapon (G10.61).
(E18.523) TRACTORS: Warp-augmented rail gun fire is not affected by tractor beams any differently than any other direct-fire weapon.
(E18.524) PHYSICAL OBJECT: While the ammunition fired by a warp-augmented rail gun is a physical object, it cannot be placed in stasis (G16.0), displaced (G18.0), or transported (G8.0).
(E18.525) DRONES: If fired at a drone in non-rapid fire mode, a warp-augmented rail gun is penalized under (FD1.52).
(E18.526) PA PANELS: The effect of an impact of a round fired by a warp-augmented rail gun is the conversion of the mass to energy. This energy can be absorbed by PA panels normally.
(E18.527) MINES: While the ammunition fired by a warp-augmented rail gun is a physical object, it will not trigger a mine [unless it was fired at the mine under (M8.52)]. WRGs fired in defensive mode cannot damage mines.
(E18.528) SPECIAL SENSORS: The firing of a WRG in either mode will blind a special sensor.

(E18.53) NON-VIOLENT COMBAT: Warp-augmented rail guns cannot use non-violent combat (D6.4).

(E18.54) PLASMA TORPEDOES: The energized matter fired by a warp-augmented rail gun has a deleterious effect on plasma energy. This is emphasized by the rapid fire system for close-in plasma defense (E18.432). However, a normal shot can also be fired at a given plasma torpedo. This would normally be done by one ship attempting to defend another that is defenseless and outside of the rapid fire range of the firing ship. In such a case, the weapon rolls a normal "to hit" for the range, and if a hit is secured, the plasma warhead is reduced by an amount of damage equal to half of the damage (warhead) strength of the WRG at that range (fractions are retained to be combined with further fire). [In plainer English, every two points of WRG damage to a plasma torpedo reduces the warhead by one point. All damage, from phasers, asteroids, WRGs, etc. is combined.]

EXAMPLE: An enveloping plasma-R torpedo is about to strike a badly damaged Jindarian frigate. A Jindarian cruiser five hexes away opts to fire its two bearing warp-augmented rail guns at the plasma torpedo. The rolls are a two and five, so both shots hit the plasma. The damage for each warp-augmented rail gun shot at this range is seventeen points, which is halved to 8.5, and then the two are combined for a total seventeen points. The plasma torpedo's warhead is reduced from 100 to 83 points.

(E18.6) LIGHT RAIL GUN

This weapon is used by the smaller (size-4) Jindarian ships. It was later used by Jindarian fighters (and even later by PFs). Larger rail guns (WRG, MRG) can be fired in this mode for the same energy costs and under the same restrictions.

(E18.61) GENERAL RULES: Light rail guns (LRGs) operate in the same manner as WRGs except as noted herein.
The cost of repair for LRGs on PFs or ships is four points.

(E18.62) ARMING COST: LRGs cost one point to arm for each shot and fire one shot per turn. They cost 1/2 point to hold (E18.22).

(E18.63) LIGHT RAIL GUN FIRING TABLE

RANGE	0	1-5	6-15*
HIT#	1-6	1-5	1-4
DAMAGE	7	5	3

* The LRGs on frigates, fighters. and PFs are limited to a range of ten hexes.

(E18.64) RAPID-FIRE MODE: Light rail guns cannot use rapid-fire (defensive) mode (E18.4).

(E18.65) REARMING PROCEDURES: PFs and other ships armed with LRGs use the arming procedures above. Note that PFs have ammunition limitations while ships of size-4 do not. Fighters equipped with LRGs use the following procedure:
(E18.651) Each fighter box for an LRG-armed fighter is marked with a = and has a capacitor for each LRG charge that the fighter can carry. These capacitors are destroyed with the fighter box itself.
(E18.652) The capacitors can be charged (one point of warp power) from the ship's power.
(E18.653) The fighters are reloaded from the capacitors in the same procedure as drones; each charge loaded counts as one deck crew action. The capacitors in a given fighter box can only be used to arm the fighter parked in that box.

(E18.66) PF AMMUNITION RULES: While PFs arm their LRGs as above, the ammunition supply is limited by the small size of the ship to eighteen on Interceptors and 24 on PFs. This ammunition is reloaded by the same procedure as loading drones on a PF (K2.341), with every six rounds of LRG ammunition counting as one drone.

(E18.7) MEDIUM RAIL GUN

This weapons was used by the two Strike Cruiser classes in *Module R6*. Size-4 ships cannot mount it, and asteroid ships do not need it. The WRG can be fired in this mode for the same energy costs and under the same restrictions.

(E18.71) GENERAL RULES: Medium rail guns (LRGs) operate in the same manner as WRGs except as noted herein. The cost of repair is seven points.

(E18.72) ARMING COST: Medium Railguns require two points of warp power to arm on each of two consecutive turns. It can be fired on the second turn of arming. The first turn's arming energy can be allocated or be provided from reserve warp power, but the weapon cannot be fired until eight impulses after the first turn's energy was provided. Example, if an MRG begins arming on Impulse #28 it cannot fire any earlier than Impulse #4 of a subsequent turn. MRGs can be held for one point of power from any source to hold after arming is complete.

(E18.73) MEDIUM RAILGUN TABLE

RANGE	0	1-5	6-10	11-15	16-20	21-25
HIT#	1-6	1-5	1-5	1-4	1-4	1-3
DAMAGE	14	12	10	7	5	3

Reduce the damage by 25% when firing through (E18.512) zones and by 50% when firing through dust (E18.513).

(E18.74) AMMUNITION: Medium railguns have unlimited ammunition for the standard direct-fire mode, but their ammunition for rapid-fire mode (E18.4) is limited to a specific number of volleys. A place is provided on the SSD to record the expenditure of this ammunition. Because of this aspect of the weapon, it was limited to raids so that it could restock its ammunition bins after each battle. WRGs armed as MRGs and firing in defensive mode have unlimited ammunition.

(E18.8) X-TECHNOLOGY RAIL GUNS

Warp technology was applied to some rail guns operated by some Caravans. It was only applied to Heavy and Medium Rail Guns.

(E18.81) HEAVY RAILGUNS: An X-Technology ship can fire it a Heavy Rail gun every turn by paying the full arming cost. This can include reserve warp power provided to a weapon that begins arming on the current turn to complete the arming.
(E18.811) An X-Heavy Rail Gun that begins arming as a normal Rail Gun cannot be changed to a Medium or Light Rail Gun shot by the application of reserve power, it can only be completed as a normal shot.
(E18.812) An X-Heavy Rail Gun that begins arming as a Medium Rail Gun cannot be changed to a normal (full strength) shot by the application of reserve power, it can only be completed as a Medium Rail Gun shot.
(E18.813) If the weapon has been loaded as a light rail gun, the application of reserve power cannot be used to upgrade the weapon to either a normal or medium shot.
(E18.814) The decision to fire a given shot as an offensive shot or as a defensive shot is made when the power to complete the weapon is made, including the application of reserve power.
(E18.815) There is no improvement in the damage, range, or other effect of the weapon other than the increase in the rate of fire.

(E18.82) MEDIUM RAILGUNS: An X-Technology ship can fire it a Medium Rail gun every turn by paying the full arming cost. This can include reserve warp power provided to a weapon that begins arming on the current turn to complete the arming.
(E18.821) An X-Medium Rail Gun that begins arming normally cannot be changed to a Light Rail Gun shot by the application of reserve power, it can only be completed as a normal shot.
(E18.822) If the weapon has been loaded as a light rail gun, the application of reserve power cannot be used to upgrade the weapon to either a normal shot.
(E18.823) The decision to fire a given shot as an offensive shot or as a defensive shot is made when the power to complete the weapon is made, including the application of reserve power.
(E18.824) There is no improvement in the damage, range, or other effect of the weapon other than the increase in the rate of fire.

(E18.83) LIGHT RAILGUNS: There is no X-technology version of the Light Rail Gun.

(E19.0) PROSPECTING CHARGES

This "weapon" is used by all empires, but is carried only by prospecting shuttles and the earliest types of Jindarian fighters. Prospecting charges (the term mining charge is not used to avoid confusion with explosive mines) are fired at an asteroid to break off a piece of rock, prepare an area for sample selections, or obtain access to the core. They were not intended to be used as weapons, but can be used as such (although they are not very effective).

(E19.1) GENERAL

(E19.11) SSD: As prospecting charges are not "ship" weapons, there is no box on an SSD reflecting them. Check-off boxes for prospecting charges are found with the SSDs for some fighters. For prospecting shuttles, simply mark each expended charge on the shuttle chart in the notes column.

(E19.12) CARRIAGE: Prospecting charges are carried by prospecting shuttles, early Jindarian fighters, and other units designated within their rules description. They are treated as any other expendable ordnance on a shuttle/fighter.

(E19.13) AVAILABILITY: Generally speaking, prospecting charges will only be available on units designated in their ship description (or a special scenario rule) to carry them. The number of charges carried by each unit will be specified in the description of that unit.

(E19.14) ADDITIONAL AVAILABILITY: The distribution of prospecting charges was controlled by their use. As they were only useful in asteroid mining operations, they simply did not appear in other places. There is no particular reason that any ship should be prohibited from having these, but no particular reason why it would. (There is no reason why any US Navy frigate might not have a harpoon gun welded to the quarterdeck, except of course that: the Navy won't pay for it and the crew isn't likely to, frigates do not hunt whales, it would be in the way, it's an accident waiting to happen, having it would not help the frigate do whatever it is assigned to do, and there is probably no one on board who knows how to operate it.) Nevertheless, prospecting charges are available for purchase as Commander's Options (one point each). It is doubtful that they would be selected by any player except in: a special scenario where a victory condition calls for using them, or in an unusual historical scenario where they were the only weapons available in a desperate situation, or when the player is in a frame of mind to experiment with something new just for the sake of doing something new.

(E19.2) ARMING & LOADING PROCEDURES

(E19.21) ARMING: Prospecting charges do not require energy to arm. They are self-contained and self-initiating weapons.

(E19.22) LOADING: Loading a prospecting charge is the same as loading a type-VI drone, i.e., a half deck crew action. Each fighter box has a ready rack holding the prospecting charges for that fighter's normal load. Prospecting shuttles do not have ready racks; their operations are less hurried, and reloading can be accomplished by (J4.8962).

(E19.23) CARRIAGE: Prospecting charges can only be carried on fighters and shuttles and only in:
- Special firing chambers on prospecting shuttles.
- Standard type-I drone rails (J4.231), specifically not "any rail able to hold a type-I drone".
- Plasma-D rails.
- Fusion beam firing chambers (replacing one charge).
- Disruptor firing chambers (replacing the charge).

Prospecting charges cannot be carried on "pod rails" (except that they will fit inside a cargo pod).

EXCEPTION: Prospecting charges can be carried in the Prospecting Cannons (E19.35) of Jindarian PPFs.

(E19.24) WEAPON STATUS: Shuttles at WS-III have their prospecting charges loaded; those at lower statuses do not.

(E19.3) COMBAT PROCEDURE

(E19.31) BASIC PROCEDURE: Prospecting charges are treated as direct-fire weapons.
(E19.311) Prospecting charges have a maximum range of one hex.
(E19.312) Prospecting charges do four points of damage.
(E19.313) Each shuttle (or fighter) can fire a maximum of one prospecting charge per turn and cannot fire two prospecting charges within eight impulses of each other.

(E19.314) The probability of a hit depends entirely on the effective speed (C2.412) of the target. (The fire control system for the charges is optimized for firing at an asteroid on a predictable path, not a ship which might suddenly change direction.) Roll one six-sided die. The die roll is affected by pilot quality, electronic warfare, and other effects. Add six to the speed of the target if it is performing Erratic Maneuvers or tumbling (in addition to electronic warfare effect).

PROSPECTING CHARGE COMBAT TABLE

TARGET SPEED	HIT	MISS
0	1-6	7 or more
1-8	1-3	4-6
9-16	1-2	3-6
17-24	1	2-6
25+	0 or less	1-6

(E19.32) FIRED INSIDE A BAY: If fired inside of a shuttle bay, a hit is automatic (G7.81).

(E19.33) DOGFIGHTS: Prospecting charges cannot be used in dogfights. The targeting system simply cannot handle the radical maneuvers that the target and firing unit are making.

(E19.34) OTHER TARGETS
(E19.341) Prospecting charges can: damage monsters, clear a path through asteroids (P3.25).
(E19.342) Prospecting charges cannot: sweep mines, damage plasma torpedoes (FP1.62), damage ESGs (G23.83), be fired while performing Erratic Maneuvers, be fired through a web (G10.61).
(E19.343) Prospecting charges can be fired at drones, but will have the penalty in (FD1.52).

(E19.35) PROSPECTING CANNON
This weapon simply fires prospecting charges. It is used only by the Jindarian prospecting PFs, although the Orions and WYNs could put one in an option mount. The weapon holds four charges and can fire one per turn. It is always loaded at all Weapon Status levels. You can load or unload one charge per turn if the weapon is not fired on that turn. A ship (other than a PF) normally has four reload charges per cannon; PFs have no reloads. Firing arc is FA.

(E20.0) TRANSPORTER ARTILLERY

Starships and ground bases are able to support ground troops in combat through the use of transporter artillery. This system uses pallets of conventional explosive artillery shells which are materialized (by the transporter) over the target. The shells have fins (or other means) to provide a proper dispersal pattern (with or without an atmosphere). Various types of shells exist (anti-armor, incendiary, fragmentation, and combinations), but these are not shown in the game; the transporter crews select the appropriate type. Transporter artillery became available with the invention of transporters.

(E20.1) OPERATIONS

Each "round" of transporter artillery shells (consisting of about 64-100 shells) is transported as a single transporter operation and is subject to all of the rules on transporters (G8.0).

(E20.11) TARGET LIMITATIONS Transporter artillery can only be used against targets on a planetary surface (i.e., the surface of a planet, moon, or large asteroid). They cannot be used against targets in space, and if transported into a space hex will disappear and have no effect whatsoever on the game. Transporter artillery cannot be used on targets inside of a ship.
(E20.111) A maximum of one round can be used by each side during each impulse in each GCL.
(E20.112) Casualty points from transporter artillery cannot be used for directed damage.

(E20.12) NON-VIOLENT COMBAT: Transporter artillery cannot be used for non-violent combat (D6.4).

(E20.13) LINE OF SIGHT REQUIREMENT: Transporter artillery can only be used by a ship if a ship has a "line of sight" to the planetary surface hexside where the target is located. Bases on a planet can transport to any adjacent hexside.

(E20.14) SURPRISED UNITS cannot use transporter artillery until the turn AFTER the turn in which they are reactivated (D18.3).

(E20.15) RATE OF FIRE: Transporter artillery can only be used at the standard (G8.31) rate, not at the higher rates.

(E20.16) TARGETING AND EW: Ground units, by their nature, are difficult to target. This is accounted for in the basic effect of transporter artillery. EW calculations are only done in three cases.
(E20.161) Naturally occurring EW (D6.3143), such as that provided by sun spots (P11.3) and asteroid fields (P3.33), will affect the accuracy of an attempt to place transporter artillery normally under (D6.37). The "ground clutter" bonus (P2.52) is not used. If the placement attempt is not successful, one ground casualty point will be scored on friendly troops (if any are in the GCL) or the rounds will simply land in open country and cause no casualties. This ECM may be offset by self-generated (D6.3141), built in (D6.3142), or lent (D6.3144) ECCM.
(E20.162) Offensive Electronic Warfare (G24.219) may be applied to the ship attempting to use its transporters in this fashion. This must have been applied during the normal impulse procedure and can be countered by lent (D6.3144), self-generated (D6.3141), or built-in (D6.3142) ECCM. As with naturally occurring ECM above, a shift caused by this form of ECM will result in friendly troops being hit (E20.161).
(E20.163) Poor crews are penalized in the use of transporter artillery as if it was a direct-fire weapon and, as such, operate under the EW penalties of (G21.111) and (G21.112). Outstanding crews apply the ECCM benefits of (G21.211) and (G21.212) to their use of transporter artillery, but do NOT modify their die roll on table (D7.421) or (E20.212).

(E20.2) EFFECT IN COMBAT

Transporter artillery can be used against personnel, vehicles, and shuttles in the open on a planetary surface. It cannot affect other targets. There is no means to stop or shoot down the shells once they have successfully materialized.

(E20.21) GROUND COMBAT LOCATION: Transporter artillery can be used against enemy troops and vehicles (or other personnel outside of structures) in a ground combat location (D15.1).
(E20.211) This attack is executed in the Operate Transporters Step of the 6B7 Marines Activity Stage and is not in any way combined with normal ground combat in the Final Activity Phase.
(E20.212) For each round used, roll two dice and add them. If this total is within the range of the "casualty" column for the number of troops in the GCL, the round produces one casualty point.
Note that the number of casualties is, in part, dependent on the number of enemy troops in the area. Note that the number of enemy personnel is expressed in terms of crew units (counting each vehicle and shuttle and its passengers as one "crew unit" for this purpose), but the number of casualties is expressed as Ground Casualty Points (D15.14). These Ground Casualty Points are resolved immediately as per (D15.34).

NUMBER OF ENEMY CREW UNITS IN GCL	DIE ROLL FOR ONE CASUALTY	DIE ROLLS NO EFFECT†
1–3	2	3–6, 8–11
4–6	2–3	4–6, 8–11
7–9	2–4	5–6, 8–11
10–19	2–5	6, 8–11
20+	2–6	8–11

† See (E20.214) for result twelve and (E20.215) for result seven.

(E20.213) Casualty points from transporter artillery cannot be used for directed damage, or to capture control stations, or to destroy GDS defense turrets.

(E20.214) If friendly troops outside of structures are also in the Ground Combat Location, then a die roll of twelve will indicate one friendly casualty point.
(E20.215) A die roll of seven indicates that one enemy boarding party or militia squad or vehicle (owner's choice, *not* a shuttle) has "taken cover" and will not be able to use its offensive potential (and cannot be used for S&D) in the subsequent Final Activity Phase. The unit in question might be given up as a casualty in a subsequent bombardment. If there are ten or more crew units in the GCL, two boarding parties or militia squads or vehicles "take cover". If there are twenty or more crew units in the GCL, two boarding parties or militia squads or vehicles "take cover" *AND* one ground casualty point is scored.

(E20.22) REMOTE AREA: When used against enemy troops in a Remote Area (D15.7) when there are no friendly troops in combat with them, add one to the dice roll in (E20.21). [Treat a result of more than twelve as twelve. All results are based on modified rolls.] Any shuttle in a remote area can be hit.
(E20.221) If there was no contact in the remote areas of that GCL on the previous Final Activity Phase, add three to the die roll in (E20.21).
(E20.222) If a "take cover" result is achieved against troops in a remote area, those troops are automatically contacted by an S&D mission in the next Final Activity Phase (if there is such a mission in that Final Activity Phase).

(E20.23) SHUTTLES: Transporter artillery can be used against shuttles parked in the open, either at a casual base (J13.0) or in an "outdoor" hangar of a small ground base (R1.28A) which has its shields down. Shuttles in flight can only be hit as part of (E20.22).
(E20.231) A maximum of one round can be used each impulse against any single ground base. A round can be targeted on the shuttles using this rule or on troops using (E20.21) but not both.
(E20.232) Roll one die for each round to determine how many shuttle boxes were damaged. Then determine the actual damaged shuttles (or SSD shuttle boxes) by a series of random die rolls. (It is possible for a given shuttle to be selected two or more times by a single round, or for only empty shuttle boxes to be hit.)
(E20.233) For each shuttle hit (or each time a given shuttle is selected), roll one die to determine the number of *SFB* damage points (*not* Ground Casualty Points) scored.
(E20.234) In the case of a Casual base, any supplies stacked in a "box" that is hit are destroyed.
(E20.235) For each round applied to a given base, roll once under (E20.21) for casualties among the deck crews. Deck crews which "take cover" cannot work on shuttles for 32 subsequent impulses.

(E20.24) OTHER TARGETS: Transporter artillery cannot damage ships, bases, PFs (or the ground crews servicing them at a base), asteroids, planets, or moons.

(E20.25) PLANETARY BOMBARDMENT: Each round of transporter artillery counts as one damage point for those scenarios where general destruction of infrastructure is a victory condition.

(E20.26) OFFICERS, CREW: Die rolls are not affected by legendary officers or crew quality except as per (E20.16).

(E20.3) CARRIAGE

Transporter artillery rounds are carried by commando ships and troop ships, and can be carried by other ships.

(E20.31) COMMANDO SHIPS and troop transports have one round of transporter artillery on board for each original boarding party on board. This is included in their BPV.

(E20.32) GENERAL: All ships may purchase transporter artillery rounds as Commander's Option Items at a cost of 1/4th a point per round up to a maximum of one round per boarding party of the ship's original crew.
(E20.321) Storage space is one cargo point per round, although rounds are not normally stored as cargo.
(E20.322) PFs, even leader and commando PFs, cannot employ transporter artillery.

(E20.33) HANDLING: Rounds of transporter artillery ammunition are treated in the same manner as transporter bombs (M3.14).
(E20.331) They cannot be attacked directly, even by hit-and-run raids. They are stored with any (or several) of the transporters at the owning player's direction. The rounds will not chain react or increase the explosion size.
(E20.332) Rounds on a captured ship cannot be used during the scenario but can be used during a subsequent scenario. A legendary weapons officer, marine major, or engineer can "unlock" one round per turn, allowing captured rounds to be used during a scenario.

(E20.34) OTHER CARRIAGE: Mines and defense satellites cannot carry transporter artillery rounds. Shuttles can carry them only as cargo.

(E20.35) EXPLOSIVE ORDNANCE: For purposes of transport and storage, transporter artillery rounds are considered "explosive ordnance" (G25.3).

(E20.36) CLUSTER BOMBS: Transporter artillery can be carried and dropped by fighters. Each round of transporter artillery can be loaded into canisters (four deck crew operations per round) which take up two drone spaces (or two pod rails) on the fighter or MRS shuttle. These are dropped by a fighter which is in the atmosphere over the GCL and are resolved as per (E20.212). (Add one to that die roll for a Green pilot and subtract one for an Ace.) Fighters may be loaded with cluster bombs at the start of any scenario, but each cluster bomb counts as one round of transporter artillery ammunition for the limits in (E20.31) and (E20.32). Cluster bombs become available when the empire begins operating MRS shuttles, i.e., Y150 for most empires.

(E20.37) GROUND ATTACK DRONE: This drone warhead module, a conventional cluster bomb, takes one payload space. It has no effect in space combat, but when fired into the GCL is treated as one pallet of transporter artillery (E20.0). This drone is considered restricted availability. This drone module is General Availability when the empire begins operating drones and transporters.—*The ground attack drone is based on a proposal by John Berg*

The concept of transporter artillery was invented by Steven P Petrick during preliminary discussions of *Module M*. The above rule was written by Mr Petrick. The ground attack drone was proposed by John Berg. Spence Cocherl resolved a statistical problem that made the cluster bombs workable.

(E21.0) ION CANNON

Ion cannon are carried by Vudar ships and some Orion pirates. They are considered to be the heavy weapons of the ship, but because they must be armed in advance and cost a considerable amount of energy to hold in the cannons if they are not fired immediately, their use is normally restricted to heavy combat situations. An ion cannon armed ship does not normally keep the cannon armed because of the energy requirement to simply hold the charge in the weapon.

(E21.1) DESIGNATION

(E21.11) DEFINITION: Each 'ION' box on an SSD represents one ion cannon. Each cannon is armed and kept track of separately. A given cannon cannot be used to arm, hold or fire more than one charge at a time.

(E21.12) DAMAGE: Ion cannon are destroyed on "torpedo" hits on the Damage Allocation Chart (D4.21). They are between photon torpedoes and disruptor-40s for purposes of (D4.3222).

(E21.13) REPAIR: Ion cannons cost seven points to repair and cannot be hastily repaired (G17.5); exception see (H8.32).

(E21.14) OPTION MOUNTS: Ion cannons can be placed in option mounts. This has no effect on the BPV of the unit to which they are added, i.e., the cost is zero BPV under Annex #8B or #8H. The Orion Pharaoh and Hamilcar Cartels treat this as an operating territory weapon but rarely use it due to the ion energy requirement.

(E21.2) FIRING ION CANNON

(E21.21) FIRING: The firing of ion cannons is declared with other direct-fire weapons in Step (6D2) of the standard Sequence of Play (Annex #2), and their damage is allocated in Step (6D4). There is no special damage allocation. There are no counters reflecting ion cannon fire.

(E21.22) HIT: To determine if an ion cannon has hit the target, consult the Ion Cannon Table (E21.23) and look under the effective range. Roll two dice. If the total (as adjusted by electronic warfare or other factors) is less than or equal to the listed "to hit" number, the cannon has hit its target.

EXAMPLE: A die roll of five is below the hit number listed for Range 6, so the cannon would score a hit (doing six points of damage) at a range of six with a die roll of five.

(E21.23) ION CANNON CHART

RANGE	0-1	2-3	4-5	6-8	9-15	16-23	24-30
Standard	10	9	8	7	6	5	4
Proximity	NA	NA	NA	NA	8	7	6
Overload	10	9	8	7	NA	NA	NA
Dmg, Stnd	6	6	6	6	6	6	6
Dmg, Prox	—	—	—	—	3	3	3
Dmg, Ovld	12	12	12	12	—	—	—

(E21.24) DAMAGE: Regardless of range, an ion cannon does six points of damage when it hits. Exceptions, see (E21.43), (E21.512), and (G13.37).

(E21.25) SPECIAL FIRING: Ion cannons can be fired in a narrow salvo (E1.6). Overloaded (E21.5) and non-overloaded ion cannons can be combined in a narrow salvo; proximity (E21.4) and non-proximity ion cannon charges cannot. Note that the effects of (FD1.52) (firing at drones) and (M8.52) (sweeping mines) apply to ion cannons as well. Ion cannons can use non-violent combat (D6.4).

(E21.3) OPERATIONS

(E21.31) ARMING: An ion cannon is armed over the course of two turns requiring two points of power on each turn of arming (total four points of power). To arm an ion cannon, a point of "ion" energy, either impulse (H3.0), APR (H4.0), or ionized (H8.0), must be allocated to the specific ion cannon on one of the two consecutive turns. The other three points of energy can be from any source (including additional ion energy), one point when the point of ion power is allocated, and two points on the turn the ion power is not applied. The two points allocated on the first turn can come from reserve power as any other multi-turn arming weapon (H7.53), but if two more points are not provided on the next turn (during Energy Allocation) the original energy is lost. The second turn is normally the impulse of firing, unless the weapon is held (E21.32).

(E21.311) The arming cycle cannot be accomplished with any other combination or amount of energy, nor can it be accomplished on non-consecutive turns.

(E21.312) APRs and impulse engines hastily repaired (G17.512) as APRs can provide the necessary ion energy. AWRs (including AWRs hastily repaired as APRs) and warp engines cannot provide this energy unless it has been ionized (H8.0). Note that reserve impulse or APR (H7.40) power also cannot be used to arm ion cannons (H8.23). Any power stored in the batteries, including power from a previous turn, is not ionized power but simply power, unless it is ionized by (H8.0).

(E21.313) The ion energy must be added as a full point when allocated. It cannot be added as a fractional element on one turn, with the remaining fraction added on some subsequent turn or by ionized reserve power during a turn. When the ion energy is added, the energy allocation sheet should reflect a 1+1 so that the availability of ion power can be verified at the end of the game.

(E21.32) HOLDING: If the arming of an ion cannon has been completed on a given turn, and the weapon is not fired on that turn, then the ship must either discharge the weapon (E1.24) or allocate one unit of energy (from any source) on each subsequent turn to hold the charge until the weapon is fired (including the turn of firing) or discharged.

(E21.321) Partially armed ion cannons [those that have received only one turn's arming energy, possibly including some overload (E21.5) energy] cannot be held.

(E21.322) Ion cannons might begin a scenario armed and held, or partly armed, or completely unarmed, as any other multi-turn arming weapon under the provisions of (S4.1). See (E21.53) for holding overloaded ion cannons.

EXAMPLE: On Turn #5, one unit of warp and one unit of impulse energy are allocated to an ion cannon. On Turn #6, two more points of energy (which could be from any source since the ion requirement has been met) are allocated, and the torpedo is considered armed from the start of the turn. If this energy had NOT been allocated, the cannon would have been discharged automatically (E1.24), and the arming must begin again (either during the turn with reserve power, or in a subsequent Energy Allocation Phase). Assuming that arming was completed during the Energy Allocation Phase of Turn #6, the cannon could have been fired during any impulse of Turn #6. If not, then during the Energy Allocation Phase of Turn #7, the ship must either expend one unit of energy (from any source) to hold the charge in the cannon or discharge it (E1.24). If not fired on Turn #7, another unit of energy must be allocated on Turn #8 to hold the charge in the cannon, or again the weapon would have to be discharged (E1.24).

(E21.33) TERRAIN: Ion cannons operate against all terrain types in the same manner as photon torpedoes. In the case of (P2.54) atmospheres, (P2.542) is the operable rule, i.e., reduce the warhead by 25% for each hex of atmosphere, rounding any fraction down. This means that an ion cannon fired through a single hex of atmosphere would lose one point of strength as 25% of six is 1.5 and the .5 is rounded down leaving only one point of warhead reduction.

(E21.4) PROXIMITY FUZE

Ion cannons may be fired with a proximity fuze. This increases their chance of a hit at longer range, but reduces their effectiveness.

(E21.41) RECORDS: An ion cannon charge fitted with a proximity fuze must be recorded as such when the second turn's arming is recorded (or before the scenario begins if the ship is holding ion cannons at the start of the scenario), or when holding energy is paid on a subsequent turn. This is done by marking a 'P' in the space on the Energy Allocation Form for the turn on which the proximity fuze is fitted (in addition to recording the holding energy or the final arming energy). It must be announced as such when fired. There is no cost (energy, victory points, or supplies) for this type of fuze and it can be removed in the same way it is installed (by not putting a 'P' in the box when recording the expenditure of holding energy). The proximity fuze can only be installed or removed during an Energy Allocation Phase.

(E21.42) EFFECT, MINIMUM RANGE: Proximity-fuzed ion cannons automatically miss at all true ranges (D1.4) (not effective ranges) less than nine hexes. At true ranges of nine or more hexes, the weapon is fired using the 'proximity' line of the Ion Cannon Table (E21.23) (a –2 bonus).

(E21.43) WARHEAD: The strength of a proximity-fuzed ion cannon is three instead of the normal six (E21.23). Proximity fuzes cannot be placed on overloaded ion cannon charges.

(E21.5) OVERLOADS

Ships that carry ion cannons have the option of 'overloading' them. This involves using extra power to arm them. This increases their power, but limits their range.

(E21.51) ARMING: To overload an ion cannon, two points of power, one of which must be from an "ion" source, must be allocated to the weapon above that needed to arm it in (E21.31) (total of six points of energy). The two extra points of energy could be added as part of either turn's arming or split between the two turns. Overload arming may be done with reserve power (H7.0), but will require the use of the Ionization system (H8.0). This could be done at the point of firing.

Reserve power added in this manner is under the rules and restrictions of (H7.54). Once overloaded, the cannon remains overloaded until fired or discharged (E1.24).

(E21.511) Energy paid to hold a charge in a cannon (E21.53) does not count for overloading.

(E21.512) The strength of an overloaded ion cannon is twelve damage points (if it hits) (E21.23).

(E21.513) An overloaded ion cannon fired at Range Zero causes two points of "feedback" damage to the shield of the firing unit facing the target if it hits its target. Firing a non-overloaded ion cannon at Range Zero causes no feedback damage; feedback only occurs from overloaded firing.

(E21.514) Allocation of overload energy, whether in the first or second turn of arming, or by allocated or reserve power, irrevocably results in an overloaded torpedo that must either be fired, held, or discharged (E1.24).

(E21.5141) If partial overload energy is added during the first turn of arming (or to a held torpedo), either by allocated power or by the application of reserve power, and the rest of the overload energy is not provided during Energy Allocation of the following turn, the torpedo is involuntarily discharged. If the torpedo is involuntarily discharged during Energy Allocation of the current turn, it cannot begin arming, even with reserve power, until the following turn.

(E21.5142) A torpedo can be voluntarily discharged at the end of a previous turn, or during any impulse of that turn (E1.24) (in anticipation of there not being enough energy to complete the overload during Energy Allocation), and may begin arming normally in the current turn.

(E21.5143) Whether discharged voluntarily, or involuntarily, the fact of the discharge must be announced, along with the amount of power discharged.

(E21.515) Ion cannons are not photon torpedoes and cannot begin a scenario overloaded under (S4.32), although ion cannons held at the start of a scenario might be overloaded normally with allocated or reserve power.

(E21.516) Overload arming may be done with reserve power under the rules and restrictions of (H7.54) and (H8.0). This could be done at the point of firing.

(E21.5161) An ion cannon that was loaded normally during previous turns can be converted to an overloaded ion cannon by allocating the required overload energy during a subsequent Energy Allocation Phase (energy to hold the overloaded weapon must also be allocated), or by allocating reserve power during the turn.

(E21.5162) If an ion cannon is overloaded with reserve power during a turn and not fired, it can be held normally by paying the holding cost (E21.53) in the subsequent Energy Allocation Phase(s).

(E21.5163) Overload energy from reserve power can be applied to an ion cannon in its first turn of arming, completing the weapon in the subsequent Energy Allocation Phase. The weapon, if not fired during that subsequent turn could still be held, paying the holding cost (E21.53), in following turns.

(E21.52) MAXIMUM RANGE: The maximum range of an overloaded ion cannon is a true range (D1.4) of eight hexes.

(E21.53) HOLDING: Overloaded ion cannon charges may be held in the weapon. The holding energy required is two points from any source.

(XE21.6) X-TECH ION CANNON

(XE21.61) FAST LOADING: X-ships may arm ion cannon in a single turn by allocating the total amount and type of energy required to arm a normal (non-X) cannon over two (or more) turns (E21.31) or (E21.51). The specific type of loading — Normal, Normal-Fast, Overload, Overload-Fast — must be recorded on the Energy Allocation Form, and in the case of non-overloaded weapons if the torpedo has a proximity fuze. See (XE1.50). If fired on the turn that it was fast-loaded (i.e., if not held to a later turn), range is limited to fifteen hexes.

(XE21.62) RESERVE POWER: Reserve power may be used to complete the arming of an ion cannon originally being armed over two turns. Such a cannon, if not overloaded, may be held as per (E21.22) and could be overloaded on a subsequent turn.

(XE21.63) HOLDING: Fast overloaded ion cannon cannot be held into a subsequent turn; they must be fired or discharged on the turn of arming. Fast standard load ion cannons can be held normally on subsequent turns if not fired, and can be overloaded on a subsequent turn, perhaps with reserve power.

(E22.0) ION PULSE CANNON

This weapon is used by Vudar fighters. It uses a small scale ion cannon launcher to fire an unstable charge that provides more damage at short range than a standard ion cannon, but quickly dissipates.

(E22.1) GENERAL RULES: Ion pulse cannons (IPCs) operate in the same manner as ion cannons (E21.5) except as noted herein. Ion cannons cannot be hastily repaired as Ion pulse cannons.

(E22.2) ION PULSE CANNON FIRING CHART

RANGE	0-1	2-3	4-5	6-8	9-10
HIT # (2d6)	10	9	8	7	6
DAMAGE	10	8	6	4	2

(E22.3) REARMING PROCEDURES: Fighters equipped with IPCs use the following procedure:

(E22.31) Each fighter box for an IPC-armed fighter is marked with a '=' and has a freezer for each IPC charge that the fighter can carry. These freezers are destroyed with the fighter box itself.

(E22.32) The freezers can be charged [a half-point of impulse, APR, or ionized (H8.0) power for each charge] from the carrier's power. Note that as of this printing no Vudar fighter can hold more than four IPC charges, and the freezer associated with the ready rack for a given fighter cannot hold more than four IPC charges. To fully load a given ready rack would require two points of power.

(E22.33) The fighters are reloaded from the freezers using the same procedure as disruptors (J4.84); each charge loaded counts as one deck crew action. The freezers in a given fighter box can only be used to arm a fighter in that box.

(E22.4) FIRING: The firing of ion pulse cannons is governed by these rules.

(E22.41) An IPC has a maximum true range (D1.4) of three hexes when fired with one charge. An IPC can use both charges in single turn to fire out to a true range of ten hexes.

(E22.42) An IPC can fire once per turn and not within a quarter turn of firing on a previous turn. Firing consumes one charge (unless a double charge is used to fire at more than three hexes range). This applies independently to each IPC on a given fighter.

(E22.43) Ion pulse cannon charges cannot be fitted with proximity fuzes, and otherwise operate under all the rules and restrictions of ion cannons, i.e., they are penalized when fired at drones under (FD1.52) as ion cannons are (E21.25).

END OF SECTION (E0.0)

(F0.0) SEEKING WEAPONS

Seeking weapons, unlike the direct-fire weapons in section (E0.0), are represented by a counter on the map and move toward their targets at given speeds. Normally, a seeking weapon will hit (or miss) its target several impulses (or even several turns) after it is launched. The primary characteristic of seeking weapons is that the target ship has an opportunity to outrun, evade, and fire at the weapon.

(F1.0) TYPES OF SEEKING WEAPONS

(F1.1) TYPES

There are two types of seeking weapons: drones (similar to radar-homing missiles) and plasma torpedoes (charged balls of energy). Because this rules section currently describes only two weapons, and because those weapons are very complicated devices to explain, it is organized somewhat differently than most other sections. A two-letter superscript (FD) is used on rules concerning drones, while a different superscript (FP) is used on rules concerning plasma torpedoes. The one-letter superscript "F" is used on rules that apply to both types.

It is possible that a third type of seeking weapon might be added to the game in a future product. In that event, a unique superscript will be assigned to it.

Some "other units" use some aspects of the seeking weapon rules. These other units are specified in their rules; players cannot use the seeking rules for units of their choice unless so allowed by the rules. Some of the units which use some aspects of the seeking weapon rules are suicide freighters (R1.33), ships using pursuit plotting (C1.322), and certain monsters. Suicide shuttles and scatter-packs, except where noted, use the "drone" rules.

(F1.2) LAUNCH SEQUENCE

(F1.21) CADET'S GAME: In the Cadet's Game, drones and seeking shuttles are launched at the start of the turn in the Drone and Shuttlecraft Launch Phase. Plasma torpedoes are launched at the end of the turn in the Plasma Torpedo Launch Phase. These weapons will be removed from play during the Final Activity Phase of the last turn of their endurance (excepting the short-ranged dogfight drones, which would be removed at the end of their twelve-hex range). The endurance of plasma torpedoes is one turn, although all but the most powerful will have no effect during the later portions of that turn and should be removed (once their damage rating reaches zero) to avoid cluttering the board.

(F1.22) STANDARD GAME: In the Standard Game, either (or both) may be launched during the Seeking Weapons Stage of any impulse. Seeking weapons are NOT launched during the Initial or Final Activity Phases in the Standard Game.

(F1.221) In a given impulse, all seeking weapons *of a given type* are launched simultaneously. See segment 6B6 for the order in which different types are launched. This may require written orders (B2.4) in complex situations.

(F1.222) Shuttles used as seeking weapons are launched when other shuttles are launched, not when seeking weapons are launched, as otherwise this would give away their identity.

(F1.23) LAUNCH TUBE OR RACK: The specific launch tube or rack of a drone or plasma torpedo need not be disclosed except by Tactical Intelligence (D17.0) or when the launching ship is within twenty hexes (and the launcher has the observing ship within its firing arc). A player does not have to verbally announce which mount launched a drone or plasma, but must provide the required information if asked, even if asked after the weapon was launched. This rule takes precedence over (D17.91).

(F1.24) TARGET: The target of a seeking weapon must be in that seeking weapon's FA arc when the weapon is placed on the board. See (FD1.21) and (FP3.0). See also (FP1.312).

(F1.3) X-SHIP SEEKING WEAPONS

The game of *Star Fleet Battles* is primarily focused on the historical period of Y150-Y185. Near the end of this period certain advanced ships (known as X-ships because of their experimental technology) were introduced. After Y205 a second generation of X-ships (known as X2-ships) appeared and the original X-ships became known as X1 ships.

These X-ships use advanced forms of drones and plasma torpedoes. These weapons are mentioned occasionally in the FD and FP sections for future reference.

THESE REFERENCES CAN BE IGNORED BY THOSE PLAYERS WHO DO NOT HAVE CAPTAIN'S MODULE X1 OR WHO ARE NOT USING X-SHIPS.

Section (X0.0) in *Captain's Module X1* includes many exceptions and changes to the drone and plasma rules, not all of which are mentioned within sections F, FD, or FP.

First Generation (X1, Y180-Y205 X-ships are presented in *Captain's Module X1*. Second Generation (X2, Y205-224) X-ships will be presented in *Captain's Module X2*.

(F1.4) IDENTIFICATION OF SEEKING WEAPONS

There are various means by which information about enemy seeking weapons can be obtained. These include:

Labs (G4.23): this rule contains the comprehensive list of information that can be obtained.

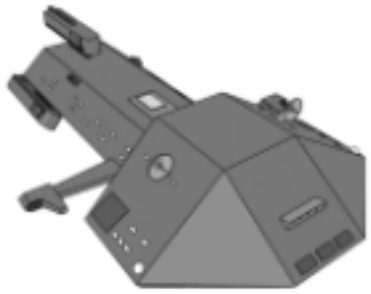
Aegis (D13.34) provides the same information as labs.

Scout sensors (G24.25) obtain the same information as labs.

SWAC shuttles (J9.12) have scout capabilities.

Probes (G5.25) provide the same information as labs.

It is of course possible to deduce certain information from the basic behavior of the seeking weapon.



(F2.0) SEEKING WEAPON MOVEMENT

Seeking weapons move and follow their targets within the following rules.

(F2.1) MOVEMENT AND MANEUVER

(F2.11) SPEED: Seeking weapons move with a fixed practical speed.
(F2.111) Plasma torpedoes move at a speed of 32. Plasma torpedoes cannot be crippled, and their speed is not reduced due to damage inflicted on them.
(F2.112) Drones move at a speed based on their type; see (FD2.1). Drones cannot be crippled, and their speed is not reduced due to damage inflicted on them.
(F2.113) Shuttles used as seeking weapons move at any speed set by the owning player up to their maximum rated speed (as modified by booster packs or crippled status). This speed cannot be changed after the shuttle is launched.
(F2.114) Other units, such as suicide freighters (R1.33), used as seeking weapons move at the speed specified in their specific rules.

(F2.12) TURN MODE: The Turn Modes of seeking weapons are as follows:
(F2.121) Drones and plasma torpedoes have a Turn Mode of one at all speeds.
(F2.122) Shuttles used as seeking weapons have their original Turn Mode (J1.23). Suicide freighters (R1.33) also have their original Turn Mode.
(F2.123) All seeking weapons must move directly forward on their first impulse of movement after launch unless they use their HET (F2.135). Note that this applies to seeking shuttles (FD1.8), even if they are only moving Speed 1.

(F2.13) HIGH ENERGY TURNS: All drones and plasma torpedoes may make one High Energy Turn during each period of 32 consecutive impulses on the map. Fighters used as scatter-packs (FD7.44) can make HETs (J4.12); non-fighter shuttles cannot.
(F2.131) When making an HET, the weapon does not move, but simply turns in place. The HET costs nothing (other than the lost movement) and cannot cause a breakdown. If a seeking weapon HETs, its next subsequent move must be straight-forward; it cannot turn or sideslip on that move.
(F2.132) The option to use an HET is up to the player owning the weapon; it can never be forced to make one, even if using an HET is the only way to satisfy (F2.2). Conversely, a seeking weapon cannot make an HET if it could move closer to the target under (F2.2). The weapon must complete the HET with the target in its FA arc. A seeking weapon which does not move on the current impulse, but which could enter the current hex of the target on its next movement, cannot use an HET to avoid this movement (F2.21-1).
(F2.133) As the HET counts as the movement for that impulse, it counts against the endurance of a plasma torpedo or drone (as one hex).
(F2.134) Other units (shuttles, monsters, etc.) may use an HET under the normal rules for that type of unit, assuming that such a unit (in its present condition) is normally allowed to make HETs.
(F2.135) Seeking weapons cannot use their HET during the impulse of launch but can use it during the impulse after launch (which is the first movement impulse for the weapon). A seeking weapon could make an HET during Impulse #1.
(F2.136) A seeking weapon could make an HET on an impulse when it is not scheduled to move; the weapon would then skip its next scheduled movement.

(F2.14) REVERSE: Seeking weapons cannot move in reverse (C3.5); they can only move forward. See also (J1.24).

(F2.2) SEEKING MOVEMENT

Seeking weapons "home in" on their targets. Seeking weapons move when called for by the movement chart. The owning player may move the seeking weapon in any manner within the limits of the rules and the following conditions:

(F2.21) BASIC CONDITIONS: The basic seeking weapon conditions are:

1. If it is possible to move the seeking weapon closer to its target, this must be done.
2. If #1 is impossible, the seeking weapon must, if possible, move in such a manner as to maintain the current distance from the target.

All distances are based on the distance at the instant before the seeking weapon moves (C1.313). The seeking weapon cannot be forced to use its HET; see (F2.132). It is possible under some circumstances that a seeking weapon could circle a target only able to hit it by using its HET, but the controlling player is never required to use the HET.

EXAMPLE: Stationary target in hex 2215 (having earlier emergency decelerated to launch a wild weasel). Drone ship in hex 2214. Drone ship launches a drone with a facing of C, the target ship is in the drone's FA arc as required by (F1.24), but due to (F2.123) its first hex of movement (if it does not use its HET) must be into hex 2315. Its Turn Mode is now satisfied (F2.121), and under (F2.2) it must move to get closer if possible (but is not required to use its HET), and not get any further away, so it turns into hex 2316, again satisfying its Turn Mode. The drone will continue to circle the target until something changes, maybe the target will destroy the drone, or the controlling player will use his HET to orient the drone on a specific shield of his victim.

(F2.22) TRACKING ARC: Having satisfied the above conditions, the seeking weapon must move in such a way to place or keep the target in the weapon's FA firing arc. If this is not possible, the seeking weapon must move in such a way as to place or keep the target in the weapon's FX firing arc. If this is not possible, this condition is ignored. Note that ship-guided weapons are unaffected by an out-of-arc target, while certain self-guided weapons must have the target in their FA arc or they become inert (FD1.7) and cease to function.

(F2.23) REQUIRED MANEUVERS: A moving seeking weapon must turn or sideslip to satisfy the above conditions. A seeking weapon is not required to use an HET (F2.132) to satisfy the above conditions. Where two hexes meet the above requirements, the controlling player can choose the hex the seeking weapon will enter.

(F2.24) MOVING TARGET: If a seeking weapon (i.e., a suicide shuttle) and its target (i.e., a wild weasel) are moving on the same impulse, the seeking weapon homes in on the hex the target is entering, not the one it is leaving. The wild weasel shuttle would move first, then suicide shuttle(s) targeted on it would move on a given impulse where both shuttles are called on to move. If the target enters the seeking weapon's hex, the seeking weapon does not move but is assumed to have hit the target; see (F2.31). See also (F2.5).

Note that because of the Order of Precedence (C1.313), the target will almost always have moved before the seeking weapon does if both are scheduled to move on that impulse. See special instructions in Step #5 if one seeking weapon is targeted on another.

(F2.3) SEEKING WEAPON IMPACT

Generally, seeking weapons strike their targets upon entering the target's hex. See (G10.521) if the target is in web.

(F2.31) GENERAL PROCEDURE: Seeking weapons impact upon entering the hex of their target, or upon their target entering the hex occupied by the seeking weapon. See (F2.32) if the seeking weapon was launched in the same hex as its target.
(F2.311) The effect of this impact generally produces an explosion, which is resolved in the Resolve Damage From Seeking Weapons (or the Resolve Damage From Enveloping Plasma Torpedoes) Step of the turn. The impact of the seeking weapon destroys the seeking weapon.

(F2.312) Several types of "movement" (black hole, nebula, seeking weapon, rotation, target) could result in the target and the seeking weapon coexisting in the same hex, resulting in impact. The impact from all these forms of movement is resolved in the steps noted in (F2.311).
(F2.313) As a seeking weapon impacts upon entering the target's hex, the target will not have the opportunity to fire on that seeking weapon at a range of "0." Note that if a seeking weapon targeted on one unit passes through the hex occupied by another unit, the unit being "passed" could fire at it at a range of "0" since the seeking weapon did not impact when entering that hex (since it hasn't reached its target). See (F2.32) if the seeking weapon was launched in the same hex as its target.
(F2.314) Even if the seeking weapon is held in a tractor beam (an enemy tractor, as a friendly tractor would cause it to go inert), if impact conditions exist, the weapon will impact. If a drone is held in a tractor and rotated (by any unfriendly unit) into the hex of the targeted unit, it impacts immediately.
(F2.315) Seeking Weapon Damage (6A3) in the Sequence of Play (Annex #2) precedes damage from asteroids (or even mines). So a seeking weapon will hit its the target in an asteroid hex before it has to roll for damage from asteroids (or dust, or other terrain, or can be destroyed by an exploding mine which might also damage the target).

(F2.32) SAME HEX LAUNCH: If the seeking weapon is launched in the same hex as its target, the Sequence of Play allows the target the opportunity to fire at the seeking weapon (assuming other conditions, such as having a charged weapon available, are met). In abbreviated form (where N is the impulse of launch), these are:

Impulse #N: Seeking Weapon Movement (ignored since the seeking weapon in question has not been launched yet).
Seeking Weapon Launch (the seeking weapon is launched in the same hex as the target).
Direct-Fire Weapons (the target and/or other units fire at the seeking weapon).
Impulse #N+1: Movement (for this example, the target is not scheduled to move on Impulse #N+1).
Seeking Weapon Movement (the seeking weapon impacts on the target, regardless of whether or not the seeking weapon is scheduled to "move" on that impulse by the impulse chart).

(F2.321) Since seeking weapon launch comes in the Impulse Activity Segment (after the Movement Segment and before Direct-Fire Weapons), the target unit (and/or other units) will have the opportunity to fire direct-fire weapons at the seeking weapon before it can impact. Which weapons are eligible to fire at the seeking weapon is determined by finding the direction to the unit that launched the seeking weapon. See (D3.42) for the facing shield.
(F2.322) If the target moves out of the hex during the impulse after launch, the seeking weapon will follow the target as per the normal rules.
(F2.323) For purposes of same hex launch (and same hex impact), the shield hit by the seeking weapon (regardless of its direction of launch) is the shield facing the unit that launched the seeking weapon (D3.42) at the moment of launch.

(F2.3231) Under (C1.313) the target may have made an HET or Tactical Maneuver and changed the facing shield.
(F2.3232) Because the target must be in the seeking weapon's FA arc (F1.24), if an enemy unit is making a high speed run through your hex, you would be obligated to face seeking weapons launched while he was in the hex toward him (opposite his direction of movement); the weapons would then be left facing the wrong direction if he moved out of the hex on the next impulse. It would be more advisable to launch the weapons before he entered your hex or just after he left it.
(F2.3233) If a plasma torpedo (FP0.0) is launched in the same hex as its target, and the target is in the torpedo's FA (not necessarily the launcher's) arc, the torpedo will strike the target on its first impulse of movement if the target is still in its hex.

EXAMPLE: Gorn BC in hex 2214 heading D. Romulan FireHawk in 2213 heading A. Romulan tractors Gorn and during the Tractor Rotation Step, rotates the Gorn into his hex. The Gorn RS torpedo launcher is armed. On Impulse #1 the Gorn launches the torpedo, by (D2.34) the torpedo can face in direction D, F, or E, but by (F1.24) the target must be in the weapons FA arc, requiring the torpedo to be launched in direction F (as the FireHawk is still "behind" the Gorn BC). If, on Impulse #2, the FireHawk is still in the hex, the torpedo impacts under (F2.32), but if the FireHawk leaves the hex, the torpedo must move into hex 2113 under (F2.123) before turning to pursue its target. Note that the FireHawk cannot launch its own plasma-F torpedo because its tracking arcs are RP/LP and the Gorn is not in arc (D2.34).

(F2.33) TARGETS: Each seeking weapon has one target, which is assigned at launch.
(F2.331) The owning player cannot change the target of a seeking weapon after launch.
(F2.332) There are various methods by which a seeking weapon may be made to change involuntarily to a different target. These include:
Wild Weasels (J3.2), and voided WWs (J3.4).
Wild SWAC shuttles (J9.24).
Wild Scout PFs (K1.756).
Special Sensors (G24.23).
Planets (P2.33).
Docking (F2.335) and (C13.943).
Dogfights (J7.32).
Ballistic drones or other units dragged off course (F4.5).
Wild Boar drones (FD5.255) use a series of targets and follow each in sequence, but this is not a voluntary change of target as it is programmed before launch.
(F2.333) Even if more than one unit is in the same hex as the target, only the target is damaged by a seeking weapon. Exceptions: collateral damage (J3.3), docked ships (C13.943).
(F2.334) A seeking weapon which passes through hexes containing other (enemy, friendly, and neutral) units which are not the target of that seeking weapon does not damage those other units. Accidental collisions are so unlikely as to be considered impossible.
(F2.335) If a target being tracked by seeking weapons docks inside or to a larger unit, the seeking weapon will accept this larger unit as its target. If two equal units dock (C13.943), the weapon will damage both.
(F2.336) If a unit undocks or launches from a unit that is the target of a seeking weapon, the seeking weapon will remain locked onto its original (larger) target. This applies to SP and MW also. Exceptions: Wild weasels (J3.0), SWACS (J9.24), random selection of one target when two ships undock (C13.943), pinwheel separation (C14.36).

(F2.4) NON-IMPACT WEAPONS

Some seeking weapons, primarily certain types of drones, do not impact on their targets when they enter the same hex.

(F2.41) DRONES: Certain types of drones do not impact on their target. Note that any of these drones will interact with an ESG field (G23.0) as if it were an armed drone.
(F2.411) ECM (FD9.0) adopt station-keeping (C1.3224) on their targets. ECM drones escorting other drones DO impact the target of the drones, but unless they have an explosive module on board, they will do no damage to it, even if the target is another drone (FD1.562) or a shuttle.
(F2.412) Swordfish drones (FD11.0) stop at some distance from the target and fire a phaser at it. Two-space Swordfish drones equipped with phaser-3 modules do continue on and impact their target after firing their phaser, but will only cause damage if there is an explosive module aboard. Swordfish drones equipped with phaser-2 modules burn up completely when the phaser is fired.
(F2.413) Probe drones (FD6.0) do not impact on their target.
(F2.414) The empty bus vehicle of a multi-warhead drone (FD8.0) will not cause damage if it impacts a target. Scatter-pack shuttles will not impact on their target (before or after releasing weapons); see (FD7.333).

(F2.42) PLASMA TORPEDOES: Pseudo-plasma torpedoes (FP6.0) do not damage their targets, but do "impact." See (FP6.31).

(F2.43) PREVENTING IMPACT: A seeking weapon might be prevented from impacting on its intended target by several means:
(F2.431) The seeking weapon could be destroyed by a direct-fire weapon (FD1.5) or (FP1.6), another seeking weapon (FD1.56), or a mine (M1.0).

(F2.432) Web (G10.0) could stop its movement. This includes cast web (E12.0) and snares (E13.0).
(F2.433) Terrain (P0.0) could damage and even destroy the weapon, or the weapon could accept a planet as its target (P2.33).
(F2.434) Tractor beams (G7.0) could grab the weapon (although not a plasma torpedo) and hold it.
(F2.435) A stasis field generator could freeze the seeking weapon or hold the target in a stasis field (G16.41), preventing damage to the target.
(F2.436) Guidance could be dropped (F3.4), the guiding unit could lose lock-on to the target (various means), the target could disengage (C7.0), or the weapon could exhaust its endurance. See (C7.22) in the case of self-guiding seeking weapons which have their own lock-ons to a disengaging ship.
(F2.437) Scout sensors could cause the weapon to lose its tracking (G24.22).
(F2.438) Those cases that could cause an involuntary change of targets (F2.332) will change the target that the weapon will impact but will not prevent it from impacting its then-current target.
(F2.439) Other possible defenses include WWs, scouts attracting or breaking lock-on of drones, Wild SWACS or PFSs.

(F2.5) MUTUAL IMPACT

In the case of one seeking weapon targeted on another†, the following example defines the procedure. Drone A is targeted on ship B; plasma C is targeted on drone A.
(F2.51) If drone A enters a hex that contains plasma C but not ship B, or if plasma C enters a hex that contains drone A but not ship B, plasma C destroys drone A and is, itself, destroyed in the process.
(F2.52) If drone A enters a hex that contains ship B but not plasma C, drone A hits ship B, and plasma C, having nothing to track, becomes inert.
(F2.53) If drone A enters a hex that contains both ship B and plasma C, plasma C destroys drone A before drone A can hit ship B.
(F2.54) If drone A and plasma C both enter ship B's hex on the same impulse, the faster seeking weapon will hit its target first. If both seeking weapons are the same speed, BOTH will hit ship B. (If both weapons hit the ship, they strike the same shield.)

The situation vis-a-vis seeking shuttles (or any seeking weapon) is judged from when they move in the Order-of-Precedence (C1.313). If at that point a ship is already IN the hex of a seeking weapon targeted on it, that seeking weapon impacts and any seeking weapon outside the hex targeted on that seeking weapon loses tracking and goes inert.

† This will mean two drones or seeking shuttles targeted on each other (or a plasma targeted on a drone) because plasma torpedoes cannot be targeted on each other, and the only drone that can be fired at a plasma torpedo (Swordfish) will fire its phaser during the Direct-Fire Segment of the impulse. Various combinations of ship, plasma, and drone are possible in the above example.

See (FD1.56) as some drones will not destroy another drone on impact. Note that for purposes of this example it is assumed the plasma torpedo's warhead was still powerful enough to kill the drone at the point of impact.

(F2.6) CONTINUOUS TRACKING

So long as one enemy ship has a lock-on to a seeking weapon, that seeking weapon is known as a unique individual (within a group of seeking weapons) from launch until impact.

(F2.61) MULTIPLE WEAPONS: If several seeking weapons are in the same hex, the opposing players (having satisfied the above condition) will know which one is the one launched by ship X on Impulse #Y, or which drones are the submunitions from the MW drone launched by ship A which separated on Impulse #B in hex C.

(F2.62) LIMIT OF INFORMATION: While this rule allows seeking weapons to be tracked as individual entities, it provides no other information. Data such as drone type is learned by various means (F1.4) and is associated with the identity.

(F2.63) LOST LOCK-ON: If lock-on is lost to several seeking weapons and then restored, the opposing players will not know which seeking weapon is which in so far as when and by what ship it was launched, but they will be able to track seeking weapon identities from the point at which a lock-on was re-established.

(F2.64) SHARED INFORMATION: This information is shared by all units on one side. If there are two or more sides, each side records this data separately and may, but is not required to, share it with other sides.

(F2.65) PLASMA TORPEDOES: The warhead strength of a plasma torpedo is known continuously (FP1.323), but a torpedo is known as a unique individual only by (F2.6). If lock-on is lost temporarily (F2.63), the opposing player could determine that three torpedoes were all at strength fifteen, but could not tell which was the type-F that had traveled seven hexes, which was the type-G that had traveled eleven hexes, and which was the type-S that had traveled nineteen hexes.

(F2.66) PASSIVE FIRE CONTROL: A ship under PFC (D19.0), including a cloaked ship, can retain tracking of individual seeking weapons within five hexes.

(F3.0) SEEKING WEAPON GUIDANCE

(F3.1) CONTROL

A unit launches one or more seeking weapons, designates their targets, and "controls" the weapons in route. It is important to understand what "control" entails.

The term "control" does not mean that the player may move the weapon wherever he wishes; movement must be within the limits of (F2.0). Nor does "control" mean that the target can be selected or changed after launch; see (F2.331).

Control means that the controlling (or guiding) unit is focusing its fire control systems on the target and providing the moving seeking weapon with continual updates on the target's location. This guidance may include electronic warfare support; see (F3.331). Many seeking weapons cannot function without being guided; see (F3.41).

(F3.2) CONTROL RATING

Each unit has a specified number of "control channels" to be used in guiding seeking weapons. Each channel can control one weapon at a time.

(F3.21) SHIPS (with certain exceptions below) can control a number of seeking weapons (drones, plasma torpedoes, pseudo-plasma torpedoes, scatter-packs, suicide shuttles) equal to their sensor rating at any given time (usually six). This procedure operates as defined in (F3.3). All seeking weapons are treated equally; a Klingon D7 battlecruiser could simultaneously control two of its own drones, three plasma torpedoes fired by allied Romulan ships, and a suicide shuttle launched by an allied Lyran ship. See (G14.111)
(F3.211) Those ships (even those from seeking weapon empires) not armed with drones or plasma torpedoes can control weapons equal to one-half of their sensor rating (usually three), round fractions of 0.5 up. Anti-drone racks do not count as drone racks for this purpose.
(F3.212) Some ships are noted in their descriptions as able to control seeking weapons equal to double their sensor ratings. For example, the Kzinti CV (R5.6) has this capability. This is often described as "double drone control," but in fact any and all seeking weapons can be controlled.
(F3.213) Scouts can use a sensor channel to control additional seeking weapons. A scout with inherent double control capabilities under (F3.212) could, by using a scout channel (G24.24), control eighteen seeking weapons. No ship in *Basic Set* has this capability.
(F3.214) PFs (K1.0), bases of all types, and Interceptors (K3.0) are treated as ships. See (R0.6).
(F3.215) Damage to the sensor track takes effect at the end of the turn (for purposes of control rating). See (D6.132) and (D6.11).
(F3.216) The PPD (E11.15) is a direct-fire weapon used by the ISC. Firing it requires a seeking weapon control channel. Note that only the ship firing the PPD can provide the control channel (E11.151).

(F3.22) FIGHTERS AND SHUTTLES: Fighters can control their own seeking weapons (i.e., those they launched) or transfer (F3.5) this control to another unit. The launch and control rates of fighters may differ; see also (J4.24) and (J4.25).
(F3.221) Fighters can control (and transfer control of) their type-VI drones. These can be released to guide themselves.
(F3.222) A two-seat fighter (including an EWF) (J4.43) can control up to twelve seeking weapons launched by other fighters of its own squadron (J4.46), but no other fighter can control weapons that it did not launch. [Exception: (J10.44).] MRS shuttles can control six seeking weapons (J8.34). The control of seeking weapons does not diminish the EW capabilities of an MRS or EWF.
(F3.223) SWACS (J9.12) use one (not both) of their scout channels to control seeking weapons.
(F3.224) Administrative, minesweeping, heavy transport, ground assault, and other non-combat shuttles cannot control seeking weapons.
(F3.225) Scatter-packs (FD7.0), including those based on an MRS or fighter, cannot control their own or any other seeking weapons.
(F3.226) Captor mines (M4.425) and defense satellites (R1.15) are treated as fighters. They can control seeking weapons they launch, but cannot accept control of a seeking weapon from another unit.

(F3.3) CONTROL REQUIREMENTS

(F3.31) CONDITIONS: To control seeking weapons, a unit must meet all of the following qualifications:

1. The unit must have active fire control operating.
2. The unit must have a lock-on to the target.
3. The unit must be within 35 hexes of the target.
4. The unit must be within 35 hexes of the weapon.
5. The weapon must be within 35 hexes of the target.
6. The unit must have an adequate number of control channels (F3.2).

All of the ranges are effective range (D1.4).

(F3.32) LOSS OF QUALIFICATIONS: If at any point the controlling unit fails to meet or maintain the conditions in (F3.31), the seeking weapons it controls are released (F3.4) and may become inert (FD1.7) if control cannot be transferred (F3.5) or assumed by the weapon itself (F3.42).

(F3.33) EFFECT OF CONTROL: A unit with control of a seeking weapon has the following capabilities:
(F3.331) ELECTRONIC WARFARE: The seeking weapon has the ECCM of the controlling unit (including any ECCM lent to that guiding unit), in addition to its own ECCM if any. Thus, a weapon could have twelve ECCM points from the guiding unit plus (perhaps) up to three points of its own ECCM. Legendary officers and outstanding crews may add more ECCM. The ECCM strength of a seeking weapon is revealed on impact; some indications will be known beforehand due to the identity of the controlling unit and (perhaps) identification of the weapon.
(F3.332) TRANSFER: The weapon can be transferred to the control of another unit; see (F3.5).
(F3.333) RELEASE: The seeking weapon can be released to its own control; see (F3.42).
(F3.334) LIMITATIONS: The controlling unit cannot change the target of the seeking weapon (F2.331). The seeking weapon must be moved within the limitations of the rules; see (F2.2).

(F3.34) IDENTITY OF CONTROLLER: All players will always know which unit is controlling any given seeking weapon. The controller of a seeking shuttle is never identified until the seeking shuttle is itself identified by the (G4.2) Lab procedure, (G24.25) Special Sensors procedure, or the (G5.25) Probe procedure. Exception: Death-Rider PFs (K7.11) cannot be identified by any means provided in this rule.
(F3.341) All transfers (F3.5) and releases (F3.4) must be announced, and any weapon providing its own guidance must be so designated. Any player can ask the owner of any seeking weapon (except a seeking shuttle) at any time which unit is controlling it.
(F3.342) Ballistic weapons are reported as self-guiding (unless the owner is using a control channel to guide the ballistic weapon to avoid revealing its ballistic nature).
(F3.343) A weapon capable of self-guidance which has not been released will not be reported as being "capable of" self-guidance.

(F3.4) RELEASE OF CONTROL

Units controlling seeking weapons may release control of those weapons. This may be done voluntarily, or may be required by certain conditions (F3.53). Once control is released (and assuming it is not transferred to another unit), it cannot be regained by any means.

(F3.41) EFFECT OF RELEASE: When control is released, another friendly unit can assume control of that seeking weapon (F3.5). If no other unit assumes control, the seeking weapon will become inert (FD1.7) unless it is capable of controlling itself. Control is released in the Seeking Weapon Stage of the Impulse Activity Segment. Release is always announced (F3.34).

(F3.42) SELF-GUIDING WEAPONS: Plasma torpedoes (FP4.0), drones with active terminal guidance (FD5.2), and type-VI drones (FD5.1) are capable of guiding themselves if released from control by the controlling unit. This rule does NOT imply that it is possible to regain control of a seeking weapon that was released; see (F3.4).
(F3.421) A seeking weapon capable of self-guiding is assumed to be under the control of a guiding unit until control over it has been released (F3.4). Once control over a self-guiding seeking weapon is released [without it being transferred to another unit (F3.5)], the seeking weapon controls itself. No other unit may subsequently assume control over it. This rule states that no OTHER unit can gain control. This does NOT imply that the original owner can regain control; the basic rule (F3.4) already prohibits that.
(F3.422) In order for a self-guiding weapon to maintain tracking on its target, it is required to have a lock-on (D6.11) to that target and to be within tracking range of the target. Depending on the type of weapon, it may be required to keep its target in a specified arc as well; see (F2.2). For lock-on purposes, a self-guiding seeking weapon has a sensor rating of six (which can never be reduced). The maximum tracking range of a self-guided seeking weapon is 35 hexes, unless superseded in the specific rules for that weapon.
(F3.423) A seeking weapon with its own guidance cannot be commanded to go inert (FD1.7); if released, it will automatically assume its own guidance.
(F3.424) If the target cloaks, a self-guiding seeking weapon will attempt to retain its own lock-on. See (FP4.5) and (FD5.24). See (G13.334) for the retention rule; self-guiding seeking weapons have a sensor rating of six.
(F3.425) Self-guiding seeking weapons may be tricked into accepting a planetary body as their target; see (P2.33).

(F3.5) TRANSFER OF CONTROL

Control of seeking weapons can be transferred between various units. Transferring control of a self-guiding seeking weapon to itself is automatic upon release (F3.4).

(F3.51) PROCEDURE: The unit controlling the seeking weapon must release that control (F3.4). The unit assuming control then does so at the same point (there is no "uncontrolled period"). Voluntary transfers are done in the Seeking Weapon Stage 6B6; involuntary transfers occur at various points. Transfer is always announced (F3.34). Units with all control channels in use could exchange control of seeking weapons if all other conditions are met.

(F3.52) REQUIREMENTS: The unit assuming control must be friendly to the unit releasing control and have the permission of the releasing unit to assume control. The unit assuming control must satisfy the requirements to control the seeking weapon; see (F3.3). The unit assuming control must have an available control channel; see (F3.2). The unit releasing control and the unit assuming control must be within 35 hexes of each other (and the weapon).

(F3.53) SEQUENCE: The transfer of control of a seeking weapon can be done voluntarily or involuntarily.
(F3.531) Voluntary transfer of control takes place during the Seeking Weapons Stage of the Impulse Activity Segment. It cannot take place on the impulse in which the seeking weapon itself was launched because of the order of procedures in the Sequence of Play, so a self-guiding seeking weapon would use a control channel during its first impulse.

(F3.532) Involuntary transfer takes place at any point in the turn in which the controlling unit must release control (F3.4). This includes:
Destruction of the controlling unit.
Any event which disqualifies the controlling unit under (F3.3).
The controlling unit is placed in stasis (G16.0)
The unit receiving control does so immediately.

(F3.54) CLOAKED TARGET: Control of a weapon targeted on a cloaked unit cannot be transferred, even if the cloak is voided, due to the weak target signature.

(F3.6) SECRET TARGETING *(ADVANCED)*

When a seeking weapon is launched, the owning player is not required to reveal the target of the weapon. He must, however, record the target in writing (on an index card, a piece of scratch paper, or a play aid form found in *Module R1)* and place this record face down on the table. (Players may develop their own alternatives for this procedure. The point is that both players must be satisfied that the record has not been changed after launch.) The record is revealed when the weapon reaches the target or when the weapon is identified by (F1.4). It is sometimes possible to deduce the target of a seeking weapon by its actions.

(F4.0) BALLISTIC TARGETING

Under certain conditions, a seeking weapon can be set on a ballistic course. That is, it is not aimed at a target unit but in a specific direction or at a specific (vacant) point in space.

Ballistic weapons can be used against ground targets; see (F4.22). See (D19.22) for use by ships using passive fire control.

(F4.1) DESIGNATION

(F4.11) PROCEDURE: To establish a ballistic course, designate a hex, not a unit, as the target of the seeking weapon. The seeking weapon will "pursue" this hex by the most nearly direct route (F2.2). Upon reaching the target hex, the seeking weapon will "evade" (C1.3223) that hex, adhering as nearly as possible to a course directly opposite its approach course. If the ballistic unit enters a third hex adjacent to the target hex without having entered the target hex, it will begin "evading" the target hex from that point.

(F4.12) CONTROL: Seeking weapons on a ballistic course are released from control immediately on launch and never count against the control limit of the launching unit.

There is a partial exception in that the submunitions of a ballistic scatter-pack must be guided. The controlling unit will have to provide this guidance at the release point or the submunitions will become inert (FD1.7).

See (F4.3) for type-IIIXX drones, including MW.

(F4.13) SINGLE TARGET: A seeking weapon on a ballistic course can only have one target hex, not several to be executed sequentially.

Multiple-point targeting is a function of the extremely long-range type-IIIXX drones (FD5.25); this is never under player control, but is used to account for drones entering a scenario.

(F4.14) RANGE: Seeking weapons fired on a ballistic course have the same range as seeking weapons fired normally. Exception: (P2.713).

(F4.2) DETONATION

(F4.21) NO EXPLOSION: Exploding seeking weapons (drones, plasma torpedoes, suicide shuttles) can be fired on a ballistic course but will normally never explode. The only purpose for this would be to detect a minefield, clear a path through asteroids, saturate defenses, or deceive an opponent. Exceptions are listed below and in (F4.3) and (F4.4).

(F4.22) GROUND TARGETS: A seeking weapon fired at targets on a planet will explode against that target if it satisfies (P2.713).

(F4.23) SUICIDE SHUTTLES: The anti-tamper devices on suicide shuttles (J2.228) can cause them to explode if another unit attempts to recover them.

(F4.3) TYPE-III DRONES

Type-III drones fired on a ballistic course can be set to accept targets within certain conditions. See (FD5.25). Standard ATG drones do not have this ability.

(F4.4) SCATTER-PACK SHUTTLES

(F4.41) PROCEDURE: Scatter-pack shuttles set on a ballistic course will release their submunitions when the first acceptable target (based on their instructions) is within their pre-set release range. The acceptability of targets is set as in (FD7.3).
(F4.411) A cloaked target is not "an acceptable target" for the ballistic scatter pack to release its submunitions unless the SP (or the ship controlling it) has a lock-on to the cloaked target. Note that the SP cannot provide guidance to its submunitions (F4.42), and if there is no unit with a lock-on to the cloaked ship able to control the drones they will be rendered inert; exception (FD7.37).
(F4.412) Seeking weapons on ballistic trajectories can never hit ships or bases in space.
(F4.413) While a scatter-pack can be targeted on a hex, but that hex cannot provoke release of the submunitions. Only a valid target can trigger this release.

(F4.42) GUIDANCE for the submunitions must be provided by another unit immediately upon release as the SP itself cannot guide them. [Exception: (FD7.37), which also applies to MW drones.]
(F4.421) Once the submunitions are released (i.e., launched), the unit controlling them can release or transfer guidance normally.
(F4.422) As only the "controlling unit" of the SP can designate targets for its submunition, some unit must have control of the ballistic SP. If the unit which launched the SP did not (or could not) retain control, any friendly ship (not shuttle or PF) can gain control of the SP at the time of release. (This requires a secure communications system, a permissive action link with limited retry capability, a code combination several thousand digits long, and other safeguards which your crew will take care of for you.) The unit controlling the SP cannot maneuver the SP beyond the limits of (F4.11). See (FD7.363) for the number of channels required at the instant of release.

(F4.43) COURSE: A ballistic scatter-pack can be ordered to go to its target hex and stop, rather than continuing on. This must be programmed into the instructions at the time of launch. As with all scatter-packs, a ballistic scatter-pack can be set for any speed from zero to its maximum.

(F4.5) TRACTORS

If held in a tractor beam, a ballistic drone or shuttle will be treated for movement purposes under (G7.52) but as a unit with zero movement cost and zero movement energy (i.e., it will move with the ship holding it.). If released, it will resume its original direction. If targeted on a hex, the target hex will be offset by the distance and direction from where the drone was tractored to where it was released.

A ballistic seeking weapon (including SP and MW) which is tractored by a friendly unit becomes inert.

END OF SECTION (F0.0)

(FD0.0) DRONES

(FD1.0) GENERAL RULES

Drones are small unmanned missiles with a trans-light speed capability. Prior to the General War, Klingon ships carried these devices as auxiliary weapons and Kzinti ships carried them as their primary armament.

As the General War began, the Federation had adopted drones as an auxiliary weapon and the Kzintis had refitted their ships with more direct-fire weapons, making drones co-equal with disruptors and phasers in their service. Advances in drone technology (speed increases and new types of warheads and guidance systems) make drones far more dangerous.

Drones are very similar to twentieth Century radar-homing missiles. They are launched by a starship (or fighter) which has a sensor lock-on to another ship (or other target) and then home in on that target.

(FD1.1) DRONE LAUNCHERS

Drones are carried in the drone racks of ships and on the launch rails of fighters. Drone racks are of various types and sizes (FD3.0), although the most common type (type-A) holds four drones and can fire one per turn. Fighters (and some shuttles) carry drones on their launch rails; see (J4.0).

(FD1.2) LAUNCHING DRONES

Drones can be launched (or fired) during the Seeking Weapons Stage 6B6 of the Impulse Activity Segment of each turn.

(FD1.21) PROCEDURE: When launched, the drone is placed on top of the launching ship, facing any direction at the option of the owning player. Drones must have their target in their FA arc when launched. The target ship for each drone must be announced on launch; exception (F3.6).

(FD1.22) ENERGY: It requires no energy to launch a drone, although fire control must be active. Exception (D19.22) launch under passive fire control.

(FD1.23) SPEED: Drone speed is determined by the drone type. Drones cannot be set to run at a lower speed than that listed in (FD2.1). The mass-produced engines are designed to run at a specific speed for a specific period of time.

Exception: ECM drones (FD9.11) adjust their own speed automatically.

(FD1.24) RECORDS: A record must be kept of the drones remaining in each launching rack. Space is provided on the SSD for this purpose.

(FD1.3) DRONE TARGETS

A drone may be targeted on anything (including another drone or a fighter) except a plasma torpedo.

Exception: Swordfish drones (FD11.0) can be targeted on a plasma torpedo.

Exception: Most friendly units cannot be targeted (D1.5).

(FD1.4) DRONE RANGE AND ENDURANCE

All drones are assigned an endurance expressed in turns. If the drone has not been destroyed or hit its target when this endurance is exhausted, it is treated as an expended drone (FD1.7). Note that if a drone is fired during a given impulse of a turn, it will reach the end of its endurance during the same impulse of a later turn.

(FD1.5) FIRING AT DRONES

Any type of weapon can be fired at drones, but some (because of their nature) are penalized when doing so.

(FD1.51) UNPENALIZED WEAPONS: Phasers (E2.0), plasma torpedoes (FP0.0), drones (FD0.0), displacement devices (G18.0), stasis field generators (G16.0), anti-drones (E5.0), Web Fist (E14.215), and maulers (E8.0) all fire at drones without penalty.

Web casters (E12.0) and snares (E13.0) do not actually fire "at" drones, but place web in front of them. They are not penalized if the intended victim is a drone.

(FD1.52) PENALIZED WEAPONS: Probes fired as emergency weapons (G5.3), Photon torpedoes (E4.0), disruptors (E3.0), TR beams (E9.0), hellbores (E10.0), fusion beams (E7.0), plasma bolts (FP8.0), particle cannons (E17.54), and plasmatic pulsar devices (E11.0), are all penalized by four points of ECM when firing at drones. These ECM points are treated as "natural sources" (D6.3143).

(FD1.53) EXPANDING SPHERE GENERATORS have a lethal effect on drones (G23.0).

(FD1.54) DESTRUCTION: A drone is destroyed if it receives damage points equal to its destruction rating (FD2.1). There are no "crippled drones." The number of damage points required to destroy a drone may be modified by armor (FD12.0).

A player is not required to announce the number of damage points that were actually required to destroy a given drone, only that the drone was destroyed by the damage scored against it.

EXAMPLE: A type-VI drone is destroyed by a bolted plasma-F at five hexes range. The bolting player only knows that the drone was destroyed, not that it took only three points of damage to do so. If the drone were a type-IV frame with three armor modules (twelve damage points to destroy, six point warhead), the bolting player would be told only that the drone was not destroyed by the bolt.

(FD1.55) MULTIPLE DRONES: If several drones are in the same hex and one is destroyed, the others are not affected by that destruction but may be affected by whatever caused it in accordance with the rules for that cause.

(FD1.56) DRONE VS DRONE: The impact of any drone (except as noted in the rules) will destroy any other drone regardless of the warhead strength of the intercepting drone or the required destruction points of the target drone.

(FD1.561) This does not apply to the destruction of suicide or SP shuttles; they use the normal combat rules requiring a specified number of points to destroy. A suicide shuttle targeted on a drone (or another shuttle) will destroy it if it has enough explosive force to do so. A scatter-pack shuttle cannot "impact" its target; it will release its drones or try to evade if too close. A seeking shuttle without drones or a suicide bomb (J2.226) cannot destroy another drone or shuttle; if it reaches its target, it will simply stop moving and go inert.

(FD1.562) The following types of drone (or a drone with only these types of payload modules) will not damage another drone:

Null drones (FD10.48).
Probe drones (FD6.0).
ECM drones (FD9.0).
Expended Multi-Warhead bus vehicles (FD8.0), (FD1.7).
Expended Swordfish bus vehicles (FD11.0), (FD1.7).
Slug drones (FD13.0).
Dummy seeking shuttles (J2.226).
And others specified in their rules.

None of the above drone types are in *Basic Set*.

If there is more than one warhead type and both are on the above list, the drone will not destroy another drone. If one type is on the above list and the other is of a type that will destroy another drone, both are destroyed.

(FD1.563) Plasma torpedoes operate normally against drones, and can simply damage a drone if the warhead of the plasma (due to range or accumulated phaser damage) is not sufficient to destroy it.

(FD1.6) DRONE COMBAT

(FD1.61) IMPACT: When an explosive drone enters the hex of its target, it explodes (F2.3) and scores a number of damage points on the facing shield equal to its warhead rating (FD2.1); also see (FD10.4). The number of damage points a drone scores must be announced when it hits its target, even if the target is a wild weasel or another drone.

(FD1.62) SHIELD HIT: Damage points are scored against the shield facing the direction of approach. [See (C1.313) for the effect of Tactical Maneuvers and High Energy Turns on shield facing.] Damage points in excess of the shield's strength are scored as internal damage. Some units do not have shields, but the direction is determined as if they did for various combat effects (e.g., directional phaser damage, which PA panel was hit, etc.).

(FD1.63) COMBAT NOTES: In practice, slower drones seldom reach their targets, although they may divert the fire of the target's phasers. To consistently score damage with a drone attack requires concentration. The drones must be launched from a position that improves their chances of a hit (i.e., don't launch them at a faster target moving away). More drones must arrive during a given period of time than the target's defenses can deal with. Scatter-packs (FD7.0) can be used to increase the effective rate of fire. A squadron of drone-armed fighters can overwhelm a target. The standard tactic is to launch one volley of drones from a distance, then follow them to the target and launch another volley at the start of the next turn so that all of the drones will arrive during one firing cycle.

(FD1.7) EXPENDED DRONES; INERT WEAPONS

(FD1.71) DRONES: Drones can become inert when:
- they have reached the limit of their range,
- they have lost their targets,
- their tracking was discontinued under (F3.41) without their own on-board guidance,
- their payloads have been expended (except where noted).

Inert drones immediately come to a stop and are removed from play during the subsequent Resolve Damage From Seeking Weapons Step. At that point, the drone destroys itself (without causing any damage). The drone cannot be recovered, located, detected, fired at, or detonated. Units, ESG fields, or other items moving through that hex cannot contact the drone.

(FD1.72) SHUTTLES: Shuttles and other size-6 or larger units moving by the seeking weapon rules which become inert remain in their hex and are not removed from play. Inert shuttlecraft can be captured and used again (subject to other specific restrictions and difficulties in capturing them). See (J1.86).

(FD1.8) SEEKING SHUTTLES

Suicide shuttles (J2.22), scatter-pack shuttles (FD7.0), and dummy suicide shuttles (J2.226) move (seek their targets) within the drone rules. They are treated as drones with the following exceptions:
- Seeking shuttles are launched during the Shuttle Launch Step.
- Direct-fire weapons (FD1.52) fire at seeking shuttles as shuttles, not drones.
- Seeking shuttles can be recovered after going inert (FD1.72).
- Seeking shuttles are damaged as shuttles, not as drones.
- The damage seeking shuttles cause is specified in their own rules.
- Non-fighter seeking shuttles cannot use an HET (J4.12).
- Seeking shuttles can be crippled.
- Seeking shuttles have the speeds and Turn Modes (J1.23) of shuttles, not drones.
- Seeking shuttles can be set for various speeds up to their maximum.

Specifically, seeking shuttles can be attracted by scouts (G24.23), have their lock-ons broken by scouts (G24.22), can have their guidance discontinued (F3.4), and can use ballistic targeting (F4.0). They cannot use EM (C10.17). A fighter used as a scatter pack benefits from its built-in ECM, but cannot receive lent EW from any unit but a scout.

(FD2.0) TYPES OF DRONES

There are some dozens of different types of drones, each of which has different characteristics. The basic drones used in the game are shown on the following chart. Various specialized drones are in *Advanced Missions*.

(FD2.1) DRONE TYPE CHART

Type	Speed	Endurance	Warhead	Damage	Space
I	8	3	12	4	1
II	12	2	12	4	1
III	12	25	12	4	1
IV	8	3	24	6	2
V	12	2	24	6	2
VI	12	1	8	3	1/2

(FD2.11) COST OF DRONE TYPES

The cost (S3.2) of replacing:
- one type-I with one type-II is 0.50
- one type-I with one type-III is 0.50
- two type-Is with one type-IV is 0.00
- two type-Is with one type-V is 0.50
- one type-I with two type-VIs is 0.00
- one anti-drone with one type-VI is 0.25

The cost (S3.2) of an extra:
- type-I drone is 1.0
- type-II drone is 1.5
- type-III drone is 2.0
- type-IV drone is 2.0
- type-V drone is 2.5
- type-VI drone is 0.5

Notes: See (FD2.54) and (FD2.55) for special restrictions on the type-VI drone. Unarmored type-III drones are always destroyed by four damage points whether they are single space drones, or two space type-IIIXX drones. It costs 1.0 points to trade a Speed 8 type-I drone for a Speed 12 type-III drone. For 0.5 points, you would get a Speed 8 type-III drone, which technically does not exist (although it theoretically could).

(FD2.12) X-DRONES: There are advanced types of drones used by X-ships. The type-VII, type-VIII, and type-IX drones are used by X1 ships. The type-X, type-XI, and type-XII drones are used by X2 ships. See (X0.0). Pay close attention; there is a potential for confusion between the type-I-X (type one extended range) drone (which is *never* used by X-ships) and the type-IX (nine) drone, which is *only* used by X-ships.

(FD2.2) EXPLANATION OF THE DRONE CHART

Speed = number of hexes moved each turn.
Endurance = number of turns the drone remains in play.
Warhead = number of damage points scored on impact.
Damage = number of damage points required to destroy drone.
Space = size of the drone, expressed in "spaces."
Cost = the cost to exchange a type-I drone for this drone. The cost of an extra drone of this type would be this figure plus one point. Note that two type-Is must be exchanged for each type-IV, and the cost of an individual extra type-IV is two points.

(FD2.21) TYPES OF DRONES:

The type-I drone is the standard type.

The type-IV drone is a larger version of the standard type-I drone, with a larger warhead.

Type-II drones are basically faster versions of type-I drones (just as the -V is a faster -IV). These burn out the standard engine at a higher rate. The type-II and -V drones all but disappeared when improvements in small warp engines increased the speed of all drones. They became available in Y77; see (FD10.65).

The type-III drones are long-range drones with active terminal guidance used in special situations.

The type-VI drone is a dogfight drone used by (or against) fighters.

(FD2.22) IMPROVEMENTS: Many optional improvements are available, each of which costs points that must be paid through (S3.2). All costs are based on additions to the basic cost of a type-I-slow drone. The BPV of all ships includes type-I-slow drones; the surcharges for improvements below must be paid in all cases (except X-ships). Note that because drone speed improves over time (years, not turns), drone-armed units may be required in a given scenario to pay the cost of higher-speed drones; see (FD2.454) in *Basic Set* or (FD10.5) in *Advanced Missions*.

(FD2.221) Active terminal guidance (FD5.2) costs 1/2 pt per drone. The warhead rating is not reduced. Drones with ATG have the designator H appended to their designation, e.g., Type-I-H. Type-III drones already have ATG, and type-VI drones have a form of ATG, and neither has a special designator.

(FD2.222) Extended range costs 1/2 point per drone and doubles the endurance. Drones with extended range have an X appended to their designation; this is not related to X-ships. (Type-III drones become IIIXX with an endurance of 100 turns and size of two spaces). Any type of drone, EXCEPT a dogfight drone (FD2.5), can be modified to have double endurance. Extended range drones become available Y93.

(FD2.223) Medium speed (the speed is increased to twenty) costs 1/2 point per drone. This is available from Y167. Medium speed drones have -M added to their designation; e.g., type-IM or type-I-M. There are no type-II-M or type-V-M drones.

(FD2.224) Fast speed (the speed is increased to 32) costs one point per drone. This is available from Y180. Fast drones have -F added to their designation; e.g., type-VI-F.

(FD2.225) When upgrading speed and exchanging sizes of drones, take the least expensive result.

(FD2.226) Type-VI speed upgrades cost 1/2 the normal amount (based on type-I upgrade costs). Type-IV drones pay the same speed upgrade cost as a type-I drone.

(FD2.227) Note specifically that type-III or type-VI slow drones are Speed 12 as noted in (FD2.1), not Speed 8.

(FD2.3) SELECTION OF DRONES

(FD2.31) STANDARD LOAD: All drone racks are presumed to be loaded with type-I-slow drones. The ship has one set of reloads (enough to reload all of its racks one time) on board. (Any exceptions will be noted in the ship specifications.) This is included in the BPV of the ship. All drone-armed fighters include one complete load of slow drones as part of their BPV**.**

(FD2.311) Type-E drone racks are loaded with eight type-VI-slow drones. Type-VI slow drones are Speed 12.

(FD2.312) Type-G drone racks are covered in (FD3.7).

(FD2.313) In Y175, all empires refitted their drone-armed ships and provided additional reloads. This is defined in (R2.R4), (R3.R4), (R5.R5), (R8.R2), and (R12.R1).

(FD2.32) ADVANCED DRONES: If a player wishes to use advanced drones, he must pay a penalty (in victory points) for the privilege. Most advanced drones are in *Advanced Missions*, and rule (FD10.6) defines various limits on the availability of such drones.

The chart in (FD2.11) includes the cost of trading a standard type-I-slow drone for another type. Rule (FD2.22) includes the cost of various improvements. See also (FD10.0).

EXAMPLES: To exchange a type-I for a I-XFH (that is, extended range, fast speed, and active homing) would cost two points. To change all sixteen drones on a Klingon D7 to "fast" drones would cost eight points (the cost of converting the eight drones in the racks, the reloads are free).

NOTES: Players should use reasonable judgement in their selection of drones. [Since no one does, see (FD10.6).] While it may seem perfectly logical to some to use only the best types of drone (such as the II-X and IV-X), this did not happen in the actual service. The better drones were more expensive and more difficult to produce and often just not available. Smaller ships (with their lower-ranking captains) received advanced models only if the larger ships were fully-stocked. Players who restrict themselves to only the very best (and most powerful) ships and weapons are missing a great deal of the game. Throughout history, many decisive battles were fought with "outdated" or "inappropriate" weapons because the new ones were not available in quantity. The "Falklands War" of 1982 is an example of this, where outdated Skyhawk jets bombed "anti-submarine" ships.

(FD2.4) LOADING

(FD2.41) MIXING DRONES: Drones may be mixed in drone racks as the players may elect. Any drone in a given rack may be fired (they are on a rotary launcher and do not have to be fired in order).

(FD2.42) RELOADS: A ship can reload its drone racks with drones from storage during combat.

(FD2.421) Up to two spaces of drones can be loaded on a given rack during a single turn, provided that the rack is not fired during the entire turn. [Two one-space drones (or four 1/2-space drones on an E-rack) can be loaded in the same time as one two-space drone.] This plan to reload must be plotted in advance, taking the rack out of service for that turn. This decision cannot be reversed. This must be a specific numbered game turn, not a period of 32 impulses. Drone racks are reloaded by assigned crew units, not by deck crews. The reload rate cannot be increased.

(FD2.422) Drone racks can be unloaded (perhaps to use the drones in a scatter-pack) by the same procedure and at the same rate, but cannot be loaded and unloaded on the same turn. An unloaded drone goes into the reload storage facility or into the cargo boxes. It cannot go directly (on the same turn) to another rack or to a scatter-pack or fighter. Reloads do not have to be loaded onto a drone rack in any specific order, although which rack any given drone was loaded onto and when must be recorded, as well as when it is launched. A unit's total stockpile (FD2.43) is not directly associated with any particular rack and can be loaded onto any rack on the ship (or a scatterpack, or on fighter ready racks assuming the unit also had fighters).

(FD2.423) Drone and ADD reloads (other than those in cargo boxes) are stored in various locations around the ship and are considered destroyed with the last Excess Damage box. If all drone racks are destroyed and then one or more are repaired, the repaired racks can load the remaining reload drones within the limits of the rules.

(FD2.43) STOCKPILE: All ships are presumed to carry one complete set of reloads (i.e., drones equal to the number of spaces held by all of their racks). In addition, certain ships that operate fighters carry extra drones to equip these fighters; see Annex #7G. Drones carried by fighters or launched from drone racks are identical. Ships can purchase extra drones as part of the Commander's Options (S3.2), but may only purchase drones that they can launch from their drone racks and/or ADD racks. See (FD2.44) for an explanation of storage and (FD2.45) for an explanation of costs. See (K2.65) for PFTs. Reload drones may not be placed in the drone racks or launch rails of any unit [exception: Scatterpacks (FD7.212)] before the beginning of a scenario except as specified in a special scenario rule.

(FD2.44) TYPES OF STORAGE, DAMAGE: A ship armed with drones can have drones in one (or all) of five places:

(FD2.441) In the drone racks. The drone racks cannot hold more than their capacity, and any drones on a rack are destroyed when the rack is destroyed. Drone racks can be reloaded (FD2.42) with drones drawn from reload storage (FD2.442) or fighter storage (FD2.443).

(FD2.442) In the drone rack reload storage (which is not on the SSD) as per (FD2.42). This storage cannot exceed the capacity of the ship's original drone racks (subject to the double and triple-reloads of some ships). This storage is destroyed with the last Excess Damage box; see (FD2.423). This reload storage is automatically refilled from the drones in cargo boxes (if any) (FD2.445). Extra drones purchased under (S3.2) can be added to this type of storage in excess of its capacity (but do not increase its capacity).

(FD2.4421) If a one-space drone from the reload storage is loaded onto a drone rack, a one-space drone from cargo storage is automatically moved into the opening created in reload storage. A player can consult his records of the drones in cargo storage to determine exactly which one he wants moved to reload storage (the ECM drone, or the phaser-3 swordfish drone, or the phaser-3 swordfish drone with external armor, etc.); see (FD2.446).

(FD2.4422) If he is replacing two spaces of drones (either because he launched a type-IIIXX, or a type-IV, or because he launched two type-Is) he can choose whether or not the drone spaces coming out of the cargo boxes are a single drone (type-IV or type-IIIXX) or two drones (two type-Is, or a type-I and a type-III without extended range).

(FD2.4423) This applies to every rack on the ship.

EXAMPLE: In a given turn rack #1 launched a two-space drone, rack #2 launched a one-space drone, rack #3 is a type-C rack that launched one two-space drone and one single-space drone, and rack #4 is a type-G rack initially loaded with ADDs and fired all eight of them. On the following turn the player decides to reload all the racks as best he can. Racks #1 and #2 can both be fully reloaded taking three spaces of drones from reload storage (and three spaces of drones will come out of the cargo boxes), but even if rack #1 is reloaded with two single-space drones, the replacement spaces taken out of cargo might be a single two-space drone. Rack #3 will not be fully reloaded as it launched three spaces of drones and can only reload two spaces, the room created in its reloads can be either a single two-space drone or two single-space drones from cargo storage. The type-G rack can have two spaces of drones (or four ADDs, or two ADDs and a one-space drone, or a two-space drone, or one ADD and one type-VI and one single-space drone, etc.) loaded allowing two spaces of cargo storage to be moved into its reload storage.

(FD2.4424) The odd trick is the type-D rack and its ilk. Having no reload storage, drones are moved directly from cargo to the magazine they are going to be loaded into as if they came from reload storage. The cargo boxes are the reload storage for such racks.

(FD2.443) In the storage facility for the fighters (if the ship is a carrier), see (J4.824), or PFs (if the ship is a PFT), see (K2.65). Non-carriers with drone-armed MRS shuttles will also have this type of storage. This cannot exceed the specified loading and is destroyed with the last shuttle box. This fighter reload storage is automatically refilled from the drones in cargo boxes (if any). Extra drones purchased under (S3.2) can be added to this type of storage in excess of its capacity (but do not increase its capacity). In the case of carrier tugs, there are separate such facilities in each hangar pod.

(FD2.444) In the shuttle bay loaded on a fighter, scatter-pack, MRS shuttle, other shuttle, or ready rack. These drones cannot exceed the capacity of what they are loaded on and are destroyed along with whatever they are loaded on (or in).

(FD2.4441) Drones in the process of being loaded onto (or into) a system (rack, shuttle, etc.) are destroyed with that system, as are drones in the process of being unloaded from a system. This is irrespective of the size of the drone (or drones) being loaded or unloaded.

(FD2.4442) These systems (fighter ready racks, etc.) can be reloaded from the drone rack reload storage (FD2.442) or fighter reload storage (FD2.443).

(FD2.445) In cargo boxes. Some drone-armed ships have cargo boxes to store extra drones. Unless otherwise specified a cargo box will hold 50 spaces of spare drones. It does not have them automatically, however, unless specified in the ship description. These drones are lost when the cargo boxes are destroyed. See (G25.3). These drones come at no cost, and are proportional to the loading of the racks.

(FD2.446) If various special drones are carried, then it will be necessary to maintain detailed records of what types of drone are in each position.

(FD2.45) COST CALCULATION: The cost of improved drones (FD2.22) is paid only for a single loading of each launch rack and/or fighter; the reloads (and drones stored on a carrier for use by its fighters) are presumed to be of the same type without additional cost. Carrier Escorts with ready racks for drone-armed fighters compute the costs for drone upgrades for drones in their fighter ready racks and storage for those racks as if they were carrying fighters (J4.621). Fighters are equivalent to drone racks for the purpose of loading ready racks.

There is a partial exception in the case of H-racks (FD3.84). D-racks are another exception.

Special drones must observe the proportional reload requirement (if identical reloads are not available, the reloads must be of the next most restrictive and expensive type), except for the LAST special drone in each percentage category. Thus, four Limited (10%) drones on a ship with double reloads would have to be deployed as two in the racks (and paid for) and two in reload storage. Any 25% drones have to be first used as reloads for the second rack-mounted 10% drone.

The drones in storage are proportional to those on the racks/fighters. They can be of a less expensive, but cannot be of a more expensive, type than the drones in the loading paid for. For example, if a Klingon D7B with two type-A drone racks had six type-I and two type-I-ECM drones in its racks, then the reloads (assuming a single set) could include up to two type-I-ECM and the rest type-I.

Note specifically that this rule does not allow you to purchase some special drones and then declare that all the special drones on your ship were loaded in the racks at the start of a scenario with the regular drones in reload storage. Some special scenario rules may allow some unorthodox drone loadouts, these reflect unique historical events and do not create a general loophole to these rules.

(FD2.451) Reload drones are held in storage. If a given rack has two type-I and one type-IV drone (and equal reloads), the player cannot declare that the two type-IV drones are in the rack while the four type-I drones are in reload storage. The player could voluntarily change the loading of a rack through the reloading procedure, but this would have to be done during the scenario by taking the rack out of operation to unload and reload the drones.

(FD2.452) The reload drones are presumed to be of the same cost (or lower) as the drones in the rack (on a drone by drone basis), but might be of a different type. Thus, a MW drone might be in the rack while an ECM drone was in the reload storage.

(FD2.453) Drones cannot be transferred to another ship that did not pay for better drones because that ship would not have the facilities to store, maintain, and operate that type of drone.

(FD2.454) Ships are not required to pay for the drone speed that is general availability, and might for tactical reasons have some slower drones on board. Extra drones purchased as such can be of any available speed. A drone-using ship used during a period when medium- or high-speed drones are used is not forced to purchase those faster drones (which in effect increases their BPV). For example, a Kzinti CS has a BPV of 116. However, it has four drone racks, each of which holds four drones. Equipped with medium-speed drones, the BPV increases by eight points (1/2-point per drone) to 124. The BPV of a Kzinti CS armed with fast drones is 132. (Of course, by the time fast drones were available, all CS-class ships had been refitted as BCs.) Normally, all drones on a given ship are of the same speed. There might be exceptions to this during a brief historical period when new technology was being introduced. Thus, a ship might have one fast drone per rack while the remainder were medium-speed drones.

(FD2.5) DOGFIGHT DRONES

(FD2.51) DEFINITION: Type-VI drones are classed as "dogfight" drones. They are used primarily by fighters to shoot at other fighters. They can be fired from type-E and type-G drone racks and by anti-drone systems (E5.41). Dogfight drones cannot be loaded on or fired by any drone racks except E and G (and ADDs). Type-VI drones are extensively used in dogfights (J7.0). There are no variants (FD2.22) of type-VI drones except for speed upgrades. Note that type-H drone racks also include a magazine of type-VI drones.

NOTE: In earlier editions of the game these were known as type-IS or type-ISH drones. That designation is now obsolete in this context, and type-IS now means type-I-Slow.

(FD2.52) FIGHTER EXCHANGE: Any fighter which carries non-dogfight drones can trade those drones for type-VI drones on a one-for-one exchange. There is no BPV adjustment for this exchange. The exchange is one-for-one rather than two-for-one because the limitation is the number of launch rails, not size or weight.

(FD2.53) EFFECTS: Dogfight drones are not affected by many factors that affect other drones. See (FD5.1).

(FD2.54) LIMITED DAMAGE: Dogfight drones score two points of damage on size class 4 and larger targets (ships, bases, monsters, asteroids, planets). This is because the tiny warhead is designed to score a direct hit on a fighter engine instead of damaging the shields of a ship.

Dogfight drones contribute two points to WW collateral damage (J3.304).

Dogfight drones score four points of damage on size class 5 targets (PFs, interceptors, GBDPs, size-5 ground bases).

Dogfight drones score eight points of damage on size class 6 and size class 7 targets (shuttles, large shuttles, defense satellites, mines). See (FD1.56) for the impact of a type-VI drone on another drone.

(FD2.55) RANGE: Type-VI drones have a maximum range of twelve hexes regardless of speed. The range cannot be extended. Obviously, movement induced by another means (e.g., black holes, being tractored) does not count against the twelve hexes of the drone's range. While a type-VI can be launched at a target up to 35 hexes away [exception, (E5.41)], its endurance is limited to twelve hexes (FD2.55).

(FD2.56) WARP SEEKERS: Type-VI drones will acquire (lock-on to) their target when they move within eight hexes of it and need no further guidance after that point. They can be released (F3.4) or the controlling unit can continue guiding them to provide ECCM support (or in case the target moves out of the eight-hex lock-on range). Type-VI drones, despite being warp seekers, cannot be used to cause selective damage on warp engines. Warp-seeking warheads cannot be used on any other type of drone. Warp-seeking drones can track any type of energy; see (FD5.11).

(FD3.0) TYPES OF DRONE RACKS

There are several types of drone racks in service; all are listed below. All drone racks are type-A unless specified otherwise in the ship descriptions. Most type-A drone racks were replaced with improved types in Y175. Players cannot change the drone racks on their ships except as provided in (S7.0). Drone rack types A, B, C, D, and F were in service inY65. Type-E drone racks entered service in Y160. Type-G drone racks entered service in Y165.

Except as noted, no drone rack can fire two drones within 1/4 turn of each other, even if on different turns.

(FD3.1) TYPE-A

The standard "A-rack" or "type-A drone rack" has a capacity of four spaces of drones and can fire one per turn. Unless stated otherwise in the ship descriptions, all drone racks are of this type. Virtually all type-A drone racks were replaced with types B or C in Y175.

(FD3.2) TYPE-B

The larger "B" drone rack has a capacity of six spaces of drones and can fire one per turn. The Klingons favored this type of rack for its increased ammunition supply.

(FD3.3) TYPE-C

The "C" drone rack is designed for "rapid fire." Two drones may be launched from this rack during a single turn. These cannot be launched within twelve impulses of each other (even on consecutive turns). It holds four spaces of drones. The Kzintis favored this type of rack because it could put more drones in flight more quickly.

(FD3.4) TYPE-D

The type-D drone rack is used by battle stations, base stations, and the Kzinti tug and battle pod. It is a single launcher with three separate magazines. The launcher, in effect, moves from magazine to magazine and draws drones from whichever magazine it is adjacent to.

(FD3.41) MAGAZINE SELECTION: The launcher can draw one drone from one magazine on each turn. The magazine used is selected when the drone is launched. The launcher cannot fire two drones within one-quarter turn even if from different magazines. Each of the three magazines holds four spaces of drones. The drones can be of any type, but cannot be anti-drones. Type-D racks cannot hold type-VI drones; see (FD2.51) for the reason why.

(FD3.42) DAMAGE: Each "drone" damage point scored on a ship/base with a type-D drone rack destroys one magazine (the last one from which the launcher withdrew a drone), but not the launcher itself. (The launcher is destroyed with the last magazine.) The battle station SSDs in *Module R1* have their magazine record tracks arranged to facilitate this procedure. The repair cost in Annex #9 repairs the launcher and/or one magazine.

(FD3.43) HANDLING: Any magazine can be taken out of service during a turn for reloading (or unloading) under (FD2.42) without affecting the launcher, so long as the launcher does not draw a drone from that magazine during the turn it is reloaded. While type-D (and type-H) drone racks do not have formal reloads, if reload drones became available (transferred from another ship, purchased as extras, stored in cargo boxes, etc.) they could be loaded into an unused magazine in this manner.

(FD3.44) RELOADS: There are no reloads for type-D drone racks; the reload drones are loaded in the spare magazines. The unit pays the drone upgrade surcharges for one magazine per launcher; the other two magazines per launcher are considered to have proportional free reloads.

(FD3.45) WEAPON STATUS: At the various Weapon Status levels, a unit with this type of drone rack may be presumed to have unloaded enough drones for use in the allowed number of scatter-packs.

(FD3.46) PLASMA RACKS: The plasma-racks on Romulan, Gorn, and ISC battle stations use the same system with three magazines, each holding four type-D plasma torpedoes. A given launcher cannot have drones in one magazine and type-D plasma torpedoes in another. An Orion base can have both types of racks so long as there is an even number of plasma racks, with each "pair" covering the entire 360° arc.

(FD3.5) TYPE-E

The "E" drone rack holds eight dogfight drones. It can carry no other types. Type-E drone racks (and type-VI drones) were originally designed for anti-drone defense, but later proved useful against fighters. Many fast patrol ships carried this version which proved useful in hunting fighters. This rack can fire up to four drones per turn, but cannot fire two drones within 1/4 turn (eight impulses) of each other, even on consecutive turns.

(FD3.6) TYPE-F

The "F" drone rack (known as the "jump rack") was a Klingon invention used to add drones to ships not originally designed for them. The drone racks seen on the B10, C9, C8, D7, D6, F5, and E4 are actually type-F racks replacing shuttles. Note that while the B10, C9, and C8 all have their drone racks in a separate compartment (D12.313), they were still type-F racks before the B-refit and are subject to these rules.

Type-F racks are functionally identical to type-A racks, except as follows:

They fire out of the shuttle hatch (D17.4) Level E.

They can explode in a chain reaction (D12.3).

They can only launch one drone from each *pair* of racks (FD4.3). If a ship has four drone racks, it could launch two drones in a turn, and both could be launched on the same impulse or different impulses.

A drone launched from an F-rack counts against the shuttle launch rate (J1.5) (this does not apply to the B10, C9, or C8).

Other empires did not use type-F racks, and Klingon ships with the B-refit have their type-F drone racks replaced with standard type-A racks (often with type-B after the Y175 refits). The only type-F racks in the game are on unrefitted Klingon ships of the types listed above. All of these "differences" cease to exist after the type-F racks are replaced with type-A.

(FD3.7) TYPE-G

(FD3.70) The "G" rack can carry four spaces of drones, and it is equipped with targeting system for anti-drones (E5.0). Each anti-drone takes 1/2 space. The G-rack can carry the 1/2 space type-VI dogfight drones or any other type of drone. Federation ships (which needed anti-drones on the Klingon front but not on the Romulan front) used this type of drone rack extensively. Other empires seldom used it. The unique nature of type-G drone racks requires that their loading must always be planned (FD2.421). They do not automatically reload ADDs when empty as ADD racks do (E5.74).

(FD3.71) MODES: The rack can carry a mixture of types and can operate in either of two modes (drone or anti-drone) on a given turn.

If fired in the anti-drone mode, it cannot fire normal drones that turn, but can fire one anti-drone per impulse.

In the drone mode, it can fire one drone per turn.

The decision as to which mode to use is made the first time (each turn) it is fired. The mandatory 1/4 turn delay between subsequent launches from a single rack (FD3.0) includes the last firing on one turn and the first firing on the next. ADD fire counts as a drone launch event for this purpose.

Note that the eight-impulse delay applies if the rack is switching from ADDs to normal drones. If it fired as an ADD launcher on Impulse #32 of one turn, it could continue to fire as an ADD launcher on Impulse #1 of the following turn with no delay. If it launched a drone on Impulse #32 of one turn, it could not launch a drone or fire as an ADD until Impulse #8 of the following turn. If it fired as an ADD on Impulse #32 of one turn, and the player wanted to launch a drone from the rack during the following turn, he would have to wait until Impulse #8 to do so.

(FD3.72) RELOADS: Type-G drone racks have two sets of reloads, one of which is entirely anti-drones and the other of which is identical to whatever is loaded in the rack itself. When the type-G was given a third set of reloads in Y175, that set was identical to the loading of the rack.

Typically, a Federation ship on the Romulan border would have drones (with perhaps two anti-drones) in the rack and first reload and eight ADDs in the second reload. A Federation ship on the Klingon front might have two, four, or even six anti-drones on the rack (and in the first reload) with eight anti-drones in the second. These are examples; the Federation player may select the actual load (and first reload) at his own discretion. If a Federation player chose to start with the rack fully loaded with ADDs, then all of his reloads, excluding any extra drones purchased with his Commander's Option points, would be ADDs.

NOTE: This data is correct; that on the various Federation SSDs in early printings is unclear.

Anti-drones are not available prior to Y140 (E5.0), type-VI drones are used prior to Y140.

(FD3.8) TYPE-H STARBASE DRONE RACK

This type of drone rack was installed only on starbases. It consists of a launcher and a series of five compartmented magazines. The launcher, in effect, moves from magazine to magazine and draws drones from whichever magazine it is adjacent to.

(FD3.81) MAGAZINE SELECTION The launcher can draw one drone from one magazine on each turn. The magazine used is selected when the drone is launched. The launcher cannot fire two drones within one-quarter turn even if from different magazines. Each of the five magazines holds four spaces of drones. In four of the magazines for each launcher, the drones can be of any type, but cannot be anti-drones. The fifth magazine holds eight type-VI drones; if this magazine is selected, it can fire as a type-E drone rack (FD3.5).

(FD3.82) DAMAGE: Each "drone" damage point scored on a starbase destroys one magazine (the last one from which the launcher withdrew a drone), but not the launcher itself. (The launcher is destroyed with the last magazine.) The starbase SSDs in *Module R1* have their magazine record tracks arranged to facilitate this procedure. The repair cost in Annex #9 repairs the launcher and/or one magazine. A repaired magazine will of course be empty.

(FD3.83) HANDLING: Any magazine can be taken out of service during a turn for reloading (or unloading) under (FD2.42) without affecting the launcher, so long as the launcher does not draw a drone from that magazine during the turn it is reloaded.

(FD3.84) RELOADS: There are no reloads for type-H drone racks; the reload drones are loaded in the spare magazines. The starbase pays the drone upgrade surcharges for two magazines per launcher; the other two standard magazines per launcher are considered to have proportional free reloads. The fifth (type-VI) magazine is never charged for speed upgrades. Starbases are treated as CVAs for purposes of allowed racial drone percentages (but do not include their type-VI drones or anti-drones in those calculations).

(FD3.85) WEAPON STATUS: At the various Weapon Status levels, a starbase may be presumed to have unloaded enough drones for use in the allowed number of scatter-packs.

(FD3.86) ANTI-DRONES: The anti-drones on starbases and BATS use an identical five-magazine system; see (E5.53). Each anti-drone launcher has five six-round magazines and can draw from one magazine at a time. It takes four impulses to switch from one ADD magazine to another, but these ADD-30s are otherwise treated as type-H drone racks. Base Stations do not use this type of ADD.

Anti-drones are not available prior to Y140 (E5.0), type-VI drones are used prior to Y140.

(FD3.87) PLASMA RACKS: The plasma racks (FP10.0) on some Romulan, Gorn, and ISC starbases, battle stations, and base stations use the same system with five magazines, each holding four type-D plasma torpedoes.

(FD3.9) TYPE-P

There is no type-P drone rack, but the plasma rack (FP10.0) is often abbreviated P-rack and this entry is provided for the reference of players who mistake it for a type of drone rack. See also (FD3.87).

(FD4.0) LAUNCHING RATES

(FD4.1) RACK TYPES

Unless stated otherwise in the ship descriptions, or when player-modifications (S7.0) are being used, all ships are assumed to have "type-A" drone racks. See (FD3.0).

(FD4.2) BASIC RATE

Unless stated otherwise in the ship descriptions, or when using player-modifications, all ships are presumed to be able to launch one drone from each of their racks each turn.

(FD4.3) EARLY KLINGONS

Some older Klingon ships had an early form of drone rack (FD3.6) that limited the launch rate. These ships can, each turn, use a number of drone racks (at the appropriate firing rate for each rack) equal to half the original number of racks (round fractions up). These ships include:

Ship	# of racks	Drones launched per turn
C9	4	2
C8	6	3
D7	2	1
D6	2	1

The B-Refits for these ships replaced the F-racks with A-racks and removed this restriction. Note that the smaller F5 and E4 also have F-racks, but because they have only one drone rack, there is no restriction. The original (unrefitted) design of the B10 (eight racks, launches four per turn) should be on this list, but since the ship could not have been completed before the refit, it could never have existed.

(FD4.4) BASIC ORION

Many Orion ships (most of which are in other products) can mount large numbers of drone racks in their optional weapon mounts. None of these ships, however, can launch drones from more than three of their drone racks during a turn (at the appropriate firing rate for the type of rack).

These restrictions also apply to Orion ships with plasma racks (FP10.0) and combinations of drone and plasma racks. The limit of three drone racks or plasma-D racks firing per turn (each at up to their maximum rate) includes both types (i.e., three total, not three of each). The launch restriction does not include anti-drones or seeking shuttles (or any other weapon).

(FD4.5) OAKDISC

Some Orion ships are configured for long-range drone bombardment or for short-ranged anti-fighter work. These have sufficient tracking capacity to fire every rack (at its maximum rate) every turn and to control a number of seeking weapons equal to double the current sensor rating. [An Orion ship could further increase its seeking weapon control abilities by installing a special sensor in an option mount and using (G24.24).]

This modification, known as OAKDISC (Orion Advanced Killer Drone Improved System of Control) costs a set number of BPV points for each ship to which it is applied. This cost is given in the description for each ship.

This specific rule has precedence over the general ship modification rules (S7.0) for improving the seeking weapon control ability of a ship. The only means of improving seeking weapon control on an Orion ship is that given in this rule, i.e., OAKDISC.

OAKDISC also applies to plasma racks and ships with both plasma and drone racks (FD10.43).

(FD5.0) METHODS OF CONTROL

There are basically three methods of controlling drones: energy seeking, self-guiding, and launcher-controlled.

The standard and most common form of guidance is launcher guidance; see (FD5.3).

(FD5.1) ENERGY SEEKING DRONES

(FD5.11) WARP SEEKER: Type-VI dogfight drones (FD2.5) are all controlled by warp-energy seekers, which look for and home in on the emissions of warp energy by their targets. (The drone can find any type of energy it was told to look for, so the target need not have warp energy. They can be targeted on asteroids, for example.) Turning off or dropping a ship's warp engines, or the fact that they have been destroyed, will not prevent the drones from tracking their target.

(FD5.12) LAUNCH REQUIREMENT: These drones require guidance until they achieve their own lock-on (at a range of eight hexes). At that point, the controlling ship may (but is not required to) release guidance. If guidance is released, the drone will assume self-guidance. (It cannot be commanded to go inert.)

The guiding unit (and hence the launching unit) must, of course, have a lock-on to the target. This is not required in the case of a dogfight (J7.0) or launch under passive fire control (D19.22).

(FD5.13) NON-DISTRACTION
(FD5.131) Dogfight drones that have gained their own lock-ons (even if still under control of another unit) cannot be distracted by electronic warfare (D6.3), wild weasels (J3.2), cloaking devices (G13.3345), SWACS (J9.2), or scouts (G24.22) and (G24.23). A dogfight drone which strikes a cloaked ship does *not* allow a lock-on by other units. Type-VI drones that gain a lock-on to a friendly unit can be inactivated by a tractor beam (G7.522).
(FD5.132) Dogfight drones can be distracted by chaff (D11.0).
(FD5.133) WW, SWACS, cloaking devices, and scouts could divert a dogfight drone that did not yet have its own lock-on.

Type-VI drones on a scatter-pack are defined by (FD7.37).

Type-VIs targeted on a WW will not revert to their original target if the WW is voided or destroyed.

Note that in the case of the cloak, if the drone did not have its own lock-on to the cloaking target, it would lose tracking and be removed from the board.

(FD5.14) TYPE-VI ONLY: Energy-seeking guidance is used only on 1/2-space dogfight drones and cannot be used on any other type of seeking weapon.

(FD5.15) MOVEMENT: The restrictions of (FD5.23) also apply to this type of drone.

(FD5.2) ACTIVE TERMINAL GUIDANCE; SELF-GUIDING DRONES.

Any drones (other than type-VI) can be equipped with active terminal guidance (ATG) as a Commander's Option (S3.2) for a cost in BPV points. ATG drones can guide themselves, but they can be distracted by electronic warfare, wild weasels, SWAC/scouts, cloaks, or chaff.

Federation scientists, while working on a deep space probe design, developed the technology for the active terminal guidance system. During the third Klingo-Kzinti War, a special treaty between the Federation and the Kzinti Hegemony resulted in various exchanges between the two fleets (including Federation observers serving on Kzinti ships and occasionally piloting Kzinti attack shuttles), one of which was this technology being passed on to the Kzintis. Shortly after they began using it, the Klingons began issuing their forces with this type of drone (and less than a year later, the Orion pirates were using it).

(FD5.21) PROCEDURE: A drone equipped with active terminal guidance (ATG), after closing to within eight hexes of its assigned target, does not require command guidance from the launching ship but will track and follow the target independently if it is released (F3.42) at that point. ATG drones must keep the target in their FA arc to track it; see (FD5.23).

If launched within eight hexes of their target, ATG drones can lock-on immediately. However, the launching unit must have the ability to control the drone before it can be launched. A unit that is already controlling its maximum number of drones cannot launch an ATG drone, even if that drone would immediately have its own lock-on. If only one control circuit were available, and the target was within eight hexes, the unit could launch one ATG (or dogfight) drone per impulse, releasing each drone on the next impulse and launching another one in the same Seeking Weapons Stage.

Passive fire control (D19.22) cannot be used to launch ATG drones while the fire control system is in active mode.

(FD5.22) COST: Any drone other than a type-VI may be equipped with ATG. This costs 1/2 BPV point; see (FD2.221). The warhead is not reduced.

(FD5.23) LOSING LOCK-ON: If, after acquiring its target and being released (F3.42) by the controlling unit to self-guidance, circumstances cause the drone to be more than twelve hexes from the target (or the target is outside of the FA arc) at the end of an impulse, lock-on is lost and the drone becomes inert (i.e., is removed from play under FD1.7). See (G18.64).

(FD5.24) CLOAKED SHIP: An ATG drone that is not controlled by a ship will roll for its own attempt to retain lock-on under (G13.33). If an ATG drone is controlled by a ship, the ship rolls to retain a lock-on. If this fails, the drone is released from control (it cannot be transferred) and can immediately roll for its own attempt to retain lock-on. ATG drones have an assumed sensor rating of six. See (FP4.5).

(FD5.25) TYPE-III DRONES: All type-III drones include a special form of ATG which does not require outside guidance and which can find its own targets after launch.
(FD5.251) A type-III drone can be launched as a standard ATG drone, with control retained until it achieves its own lock-on.
(FD5.252) A type-III drone can be launched on a ballistic course to seek its own target (the launching ship will retain no control over the drone). It will accept the first enemy unit in its FA arc, eligible for lock-on, and within eight hexes. This is known as "Tame Boar." At this point, it will lock-onto that target and assume self-guidance. The owning player can designate the acceptable size class of target at the time of launch using (FD7.3). [If you do not have *Advanced Missions*, this can be any size class.] This cannot be changed after launch. This also applies to MW versions of type-III drones. See (FD5.256) for an optional targeting system. If there are more than two targets that meet the drone's targeting, select the nearest one to be the target. If they are equally near, determine the one to be pursued randomly (by die roll) for each drone.
(FD5.253) Type-III drones cannot be placed in a scatter-pack; see (FD7.12).
(FD5.254) Type-III drones also include built-in ECCM (D6.393).
(FD5.255) Type-IIIXX drones, because of their unique long range, can use a system known as "Wild Boar." (This is not related in any way to a wild weasel, PFS, or SWAC.)

The drone is launched on a long ballistic course toward an area where enemy units are thought to be present. This course may include a maximum of three "waypoints" or intermediate targets. After reaching each waypoint (which can be up to 1,000 hexes apart), the Wild Boar will switch to the next waypoint. During this time, the drone will ignore any targets (including those which attack it).

After the final waypoint, it will activate its sensors and proceed on a programmed course (which can only be a straight line from the final waypoint or a circle of a defined radius) until its fuel is exhausted or it locates a target (FD5.252). It will then accept that target and attack. When the drone starts looking for acceptable targets, it accepts the first in terms of distance of those acceptable targets. Thus, if it was set to pursue either a frigate or a dreadnought, and both were in its range limit, it would pursue whichever was closer to it, even though the player might want it to pursue the other target instead. If two or more targets are equally close, the actual target is determined randomly by placing duplicate counters of each possible target into a cup and drawing one to maintain the secrecy of the drone's target. For multiple drones, have a neutral player observe these draws.
(FD5.256) Players can use a more accurate targeting system in (FD5.252) instead of (FD7.3). The player can specify a tactical intelligence hull type. See Annex #10. Basic and § hull types can be specified. For example, you could tell it to attack a C8H, but if a C8V and a C8S were both present, it would take the first one it saw.
(FD5.257) A drone launched on either a Tame Boar or Wild Boar trajectory will ignore any unit protected by an active wild weasel when it begins to search for targets. It will accept a wild weasel launched by such a unit as that type of unit as any other drone would. If a unit voids such a weasel, and the drone is within twelve hexes of the unit, the drone will accept the unit as its target, but if the distance is more than twelve hexes, the drone will go inert and be removed from play.

(FD5.26) BUILT-IN ECCM: ATG drones have two points of built-in ECCM; see (D6.393). This is treated as per (F3.33).

(FD5.3) LAUNCHER-GUIDED DRONES

This is the standard and most common form of drone guidance. If a given drone does not have ATG or is not a warp seeker (or is not yet close enough to acquire its target via those systems), it must be guided to the target by the launching unit [or another unit that assumed control under (F3.5) Transfer]. Note that the term "launcher-guided" does NOT mean that the player can move the drone at will, but that his ship has focused a targeting system on the target to identify it to the weapon. The player cannot change the drone's target after launch.

(FD5.31) REQUIREMENTS: To guide drones, a unit must satisfy the conditions of (F3.3) and of (F3.0) generally.

(FD5.32) TERRAIN: Planets can cause a lock-on to be broken (P2.3). In some cases the drone may suddenly accept the planet as its target and strike the planet. (Since the warheads of drones are thermonuclear, this could cause considerable damage.)

(FD5.33) TRANSFER: A unit guiding a drone to a target can transfer control of the drone (i.e., responsibility for its guidance) as per (F3.5).

(FD5.34) ELECTRONIC WARFARE can reduce the effect of a hit by a drone by causing the weapon to explode at a distance (well inside the target hex) from the target rather than against its shields; see (D6.36).

(FD5.35) CUTTING TRACKING: A unit guiding a drone can discontinue guidance under the terms of (F3.4). This could cause the drone to go inert (FD1.7). Note that a unit need not discontinue guidance of a drone if the target was destroyed. The unit could still guide the drone to the hex where the target was destroyed, at which point the drone would become inert. This might be done for deception purposes, to cause collateral damage (J3.3), to damage an ESG or detonate a mine, or for some other purpose.

NOTE: The "scrambling device" in rule (FD5.4) of previous editions of *SFB* was deleted in the *Captain's Edition*.

(FD6.0) PROBE DRONES

Developed by Orion scientists in Y152, this drone was in use by Kzinti and Klingon ships as early as Y155. Officially intended to investigate monsters (as it eliminated the need for the ship to close with its target) it eventually found more military uses. It is doubtful that anyone actually believed the announcement since, at the time, there were virtually no Federation ships equipped with drone racks. In fact, this drone was designed for use by Pirates who occasionally encountered monsters and wanted to be able to gather enough information to receive a "science bonus" for leaking the information to the Federation. Other empires have adopted similar drones.

See (FD10.6) for rules governing the availability of this drone module.

(FD6.1) DESIGN

(FD6.11) FUNCTION: The probe drone originally appeared on a type-I drone frame. In that form, it operates in all ways as a type-I drone, except as provided in these rules.

(FD6.12) CONSTRUCTION: A probe drone has a "probe module" in place of its explosive warhead. See (FD10.0) and especially (FD10.42) for more information about combining probe modules with other drone frames.

(FD6.13) CARRIAGE: Probe drones can be carried by ships, EW fighters, and MRS shuttles. A probe drone could also be carried by any fighter equipped with a sensor pod (J11.42), but not by other fighters. Probe drones cannot be loaded on captor mines or DefSats. Probe drones may be placed in Scatter-Packs.

(FD6.14) RECOVERY OF DATA: Normally, probe drones provide their data by subspace link directly to the controlling ship as a lab box (FD6.3). Some scenarios may provide for probe drones to be launched at targets beyond the range where a drone can be controlled or other circumstances (such as the use of a cloaking device by an Orion ship) may curtail the use of a control channel. In such cases Probe Modules can be ejected from probe drones after gathering their information. The fact that the probe module will be ejected must be included in the targeting instructions of the drone together with a triggering event if the drone is not controlled. The drone will then continue to operate as a normal drone, and the space where the probe module was will be reported as a "null" module if the drone is identified. Controlled probe drones can eject the module on command but will no longer be controlled after that point and go ballistic (F4.0).

(FD6.141) Modules are ejected during the MW release step of the (6B6) Seeking Weapons Stage of the Sequence of Play.

(FD6.142) The hex into which the module is ejected must be recorded. After six turns (192 consecutive impulses) the module will begin emitting a homing signal that any ship or PF (not shuttle) will detect, and this must be announced.

(FD6.143) Probe Modules can only be recovered by tractor as a shuttle under (J1.620). Due to their small and shielded nature, they take six points of damage to destroy after being dropped from the drone bus (if the drone is destroyed before the module is dropped, the module is destroyed), unless hit by an ESG (G23.0) field in which case only one damage point is required.

(FD6.2) GUIDANCE

Probe drones have several guidance capabilities.

(FD6.21) NORMAL: In normal combat situations, the probe drone seeks a designated target and, upon reaching it, follows it in the manner of an ECM drone (FD9.11) in an effort to remain with it. It can change speeds while trying to stay with the target (as an ECM drone can) but cannot change speeds otherwise.

(FD6.22) DIRECTED CONTROL: A probe drone can be guided directly by the controlling unit, moving (within the limitations of terrain, speed, and Turn Mode) into whatever hexes the controlling unit directs. This method cannot be used to guide a probe drone into an impact with its target (F2.413).

(FD6.221) This method cannot be used if, within 35 hexes of the probe drone, there is an enemy unit with active fire control (D6.6) or (D6.7), or if there is an unvoided WW (J3.0), a wild SWAC (J9.2), or a wild PF scout (K1.756). Friendly WWs, SWACs, or wild PFs will also interrupt this method. (Living monsters, although they have what amounts to active fire control, do not count for this purpose.)

(FD6.222) If launched under this form of control and the conditions of (FD6.221) arise (preventing continued use of this form of control), the probe drone must be (involuntarily) ordered to do one of the following:

- go inert (FD1.7) [after ejecting its module (FD6.14) if so programmed], or
- proceed on a ballistic course (F4.0) toward a target hex set by the owning player at that instant, or
- accept the source of the (FD6.221) interference as its (FD6.21) target [if that target is otherwise qualified as a target (F3.0)]. If several sources appear at once, any one of them can be selected by the owning player.

The drone can be voluntarily ordered to assume one of these modes during the Voluntary Transfer of Control Step of the Seeking Weapons Stage of any impulse.

This forms a partial exception to (F3.334).

(FD6.23) BALLISTIC: Probe drones, like most drones, can be fired on a ballistic course (F4.0).

(FD6.3) INFORMATION OBTAINED

Probe drones will produce all of the information listed below.

(FD6.31) SCIENTIFIC: The probe drone is considered to be a lab box for purposes of gathering information points only; see (G4.1). It can only produce information regarding the assigned target. The information it gains is based on the drone's closest approach to the target during that turn. Note that probe drones cannot identify seeking weapons (F1.4) or determine if a shuttle is manned or not.

(FD6.32) MILITARY: Probe drones will report the presence and size class of any object that they pass within ten hexes of (effective range). This information is obtained even if the targets are out of the view of the ship (blocking terrain, range, etc.), but can only be obtained if the ship is within control range of the drone and the drone has a line of sight to the object. This information is produced during the Tactical Intelligence Interrogations Step of the Lock-On Stage of the Impulse Activity Segment. See (D20.23) for hidden units. See (G13.302) for calculating effective range to cloaked units, i.e., add five to the range. Probe drones cannot detect minefields (M7.11), but can be used to identify individual mines (M7.52). A probe drone cannot detect a chain or command mine.

(FD6.33) TACTICAL INTELLIGENCE: Probe drones have a use in gathering tactical intelligence. See (D17.14) and (D17.3).

(FD6.4) DESTRUCTION

If destroyed, the drone is still considered to have gathered scientific (FD6.31) information on the turn of its destruction, based on its closest approach to the target. Information under (FD6.33) and (FD6.32) will, of course, be reported each impulse as it is received.

(FD6.5) MONSTER DEFENSE

The monster close-in defense system (E6.0) will fire at probe drones, although they will have a lower priority (E6.42) than drones with explosive warheads, shuttles, and plasma torpedoes, as a probe module is not a damage-producing warhead. Combining the probe module with other modules could raise the drone's (E6.42) priority.

(FD7.0) SCATTER-PACK SHUTTLES *(Commander's Level)*

A "scatter-pack" (SP) is a shuttlecraft modified to carry drones and used as a multiple-warhead seeking weapon. It is not certain when this tactic was first developed, but it was probably by a Kzinti or Klingon captain in the desperation of a losing battle.

NOTE: In some cases, scatter-packs could be armed with plasma torpedoes (FD7.443). Technically, many references to "drones" in these rules also apply to plasma torpedoes, but making the rules semantically correct would complicate them unnecessarily.

(FD7.1) SHUTTLES USED AS SCATTER-PACKS

(FD7.11) QUALIFIED SHUTTLES: Only admin shuttles, MRS shuttles (FD7.38), MLS, MSS, and fighters (FD7.44) may be used (i.e., armed and launched) as SPs.

(FD7.111) All SPs are unmanned and cost no energy to launch. There are no volunteer Kamikaze pilots in any empire.

(FD7.112) Crippled shuttles cannot be armed or launched as real or dummy SPs unless they have been repaired to an uncrippled condition, e.g., an admin shuttle with four points of damage that has had one point repaired may be prepared as a scatter-pack the turn (not 32 impulses) after the repair takes place. See (FD7.48) in the event of an SP that was crippled after launch but before it can release its drones.

(FD7.12) PROHIBITED DRONES: Type-III (FD5.253), multiple-warhead (FD8.31), Starfish (FD15.253), and Stingray (FD16.253) drones cannot be placed in an SP. This prohibition includes type-III drones on fighters used as SPs even if those fighters are normally armed with type-IIIs; however, see (FD7.211).

(FD7.13) ALLOWED DRONES: Any type of drone, except those specifically prohibited by the rules, can be placed in an SP. Drones with ATG can be placed in an SP. All drones currently prohibited are listed in (FD7.12). If new drone types are added to the game, they can be placed in an SP unless their description prohibits this use.

(FD7.14) PROHIBITED SHUTTLES: GAS, GBS, HTS, HAS, and SWACS shuttles cannot be used as SPs. An SP shuttle cannot simultaneously perform any other mission, such as a WW, suicide, normal admin shuttle, laying mines, etc.

(FD7.15) PLASMA TORPEDOES can be used on SPs, but only those based on fighters or MRS shuttles, and only under severe restrictions detailed in (FD7.443) and (FD7.444). MRS shuttles armed with plasma-Ds cannot also be loaded with drones in scatter pack mode or vice-versa.

(FD7.2) LOADING A SCATTER-PACK

(FD7.21) LOADOUT: An admin shuttle used as an SP carries up to six "spaces" of drones. Other types of shuttles could carry more or fewer as provided in their rules. Some MRS shuttles, for example, could carry eight spaces.

(FD7.211) A fighter used as an SP (FD7.44) carries up to its normal load of drones. While a fighter SP cannot launch type-III drones, it could carry other drones on those rails; see (J4.233) and (J4.234). If loaded before the scenario, the fighter could only carry the assortment of drones on which the cost of the reload storage was calculated. If loaded during the scenario, it could carry any of the stored drones. (i.e., If the carrier paid for 25% of the drones on its fighters to be armored, it could not load more than one armored drone on a fighter-SP that normally carries four drones before the scenario began.) If a fighter or MRS shuttle is launched in scatter pack mode with drones prohibited by (FD7.12), the prohibited drones are dropped inert (FD1.71) when the release conditions (FD7.31) are met, but see (FD7.39).

(FD7.212) The drones used for an SP are drawn from the reserve stocks (FD2.44) or the drone racks of the ship which prepares and launches the SP. Drones loaded onto an SP at the start of a scenario under WS-II or WS-III are drawn from the ship's reload stockpile (FD2.44) and do not cost any BPV since they were paid for under (FD2.45). Any drones in the reload stockpile not prohibited by (FD7.12) can be loaded in the scatterpack at start without regard to availability (FD10.6).

(FD7.213) The specific drones carried must be recorded before the SP is launched, but this information is not revealed until the drones are identified within the rules.

(FD7.214) Drones are loaded on an SP as if it were a fighter; see (J4.82).

(FD7.215) It takes 32 impulses to convert an SP back to being a shuttle; this can be done simultaneously with unloading any SP drones. All drones, other than those carried on the drone launch rails of fighters or MRS shuttles, must be unloaded before the shuttle can be used, including preparation as a suicide shuttle, wild weasel, for cargo transfer, etc.

(FD7.22) DECK CREWS: The drones must be loaded on the SP by deck crews at their normal rates. All ships have deck crews; see (J4.814).

(FD7.23) SHIPS WITHOUT DECK CREWS: See (J4.814) if the ship does not have regularly assigned deck crews.

(FD7.24) DRONES FROM DRONE RACKS: Drones are removed from drone racks under the terms of (FD2.422).

(FD7.25) TRANSFERRING DRONES: Drones taken from storage for use on an SP are transferred to the shuttle bay by means of (J4.82) and loaded on a non-fighter SP as a single combined deck crew action. Drones taken from ready racks (or other fighters) require a deck crew action to unload and a second subsequent action to load on the SP, no deck crew is needed to unload a drone rack. This is faster than loading the drones on a fighter due to the nature of the SP; this rate applies only to non-fighter SPs.

(FD7.26) EXAMPLE: A Kzinti CL has decided to prepare a scatter-pack in its current battle with a Klingon F5C. The ship has two shuttles and, per (J4.814), has two deck crews. In order to prepare the scatter-pack, the Kzinti must move drones from reload storage to the shuttle bay. Each drone space moved from storage to the shuttle bay and installed on the SP requires one deck crew action (J4.821). So it will require six deck crew actions over three turns to move a full load of six drone spaces to the shuttle bay and load them on the shuttle.

(FD7.3) TARGETING AND OPERATIONS

(FD7.31) PROCEDURE: Prior to launching, the owning player must record four specific pieces of information relative to targeting:

1-What enemy ship [or other unit, or object; or hex if ballistic (F4.4), note that a hex cannot trigger release] is the SP's primary target (the one it will pursue)?

2-At what distance (or less) in hexes from this target will the drones be released? (This distance cannot be less than two hexes; the minimum two-hex range cannot be decreased.) This distance cannot exceed 35 hexes. See (FD7.33). Always use true range.

3-How many points of damage scored on the SP shuttle (after launch, not counting unrepaired damage at the time of launch) will cause the drones to be released prematurely?

4-Will the drones all be targeted on the prime target or randomly at different targets? If random (FD7.34), what size class targets will the drones accept?

If an SP meets its release conditions, it will release its submunitions even if there is no unit that can control them at that point. This will result in the submunitions being lost if they are incapable of gaining their own lock-ons.

(FD7.32) MOVEMENT: The SP will home on its specific target as if it were a drone; see (F2.0). It is controlled as a seeking weapon (F3.0), and as such, it counts against a ship's control limit (F3.2) and can be distracted [see (F2.332) and (FD7.345), which is a special case].
(FD7.321) If launched ballisticly (F4.4), it does not count against the ship's or any unit's control rating until it releases.
(FD7.322) An SP cannot use Erratic Maneuvers (C10.132).
(FD7.323) An SP cannot perform an HET (C6.0) except under (FD7.444).

(FD7.33) RELEASE: At the MW Release Step [Seeking Weapons Stage (6B6) of the Impulse Activity Segment] of the impulse in which the release conditions [#2 or #3 in (FD7.31)] are fulfilled, the drones will be released. Place all of the drones carried by the SP in the same hex as the SP counter; they must all have their target within their FA arc (F1.24). They begin normal drone movement (and their endurance is counted) from that point. (Due to the Sequence of Play, they will not actually move on the release impulse.) If the drones are targeted on the primary target, play proceeds normally. If the drones are targeted randomly, assign the targets by (FD7.34). If launched by a non-fighter SP, the drones may be released facing in any direction. See (FD7.444) in the case of a fighter SP or plasma SP.
(FD7.331) SPs cannot release their drones within 1/4 turn (eight impulses) of the time of launch or if the range to the primary target is less than two hexes. The two-hex release range applies only to deciding whether the SP will initially release and imposes no restrictions on the actual targets of the drones under (FD7.333) and (FD7.341). See also (J1.34). See (FD7.333). Note that while an SP will meet its release condition on the Launch Shuttlecraft Step of the Shuttle and PF Functions Stage (6B8) of its eighth impulse, it will not be able to actually release drones until the ninth impulse. Since shuttle launch occurs in Step (6B8) and drone launch is in Step (6B6) of the Sequence of Play (Annex #2), if an SP is launched on Impulse #1 it can release no earlier than Impulse #10. On Impulse #9 (eight impulses after launch) the SP qualifies to release after the drone launch step, so it must wait until Impulse #10 to actually launch.
(FD7.332) If the target is destroyed, the SP pursues the hex where the target was destroyed (where residual radiation and wreckage exist). If drones targeted on the primary target are released after the target is destroyed, the drones go inert (FD1.7). Exception: an SP or its drones may still track a destroyed wild weasel during the explosion period under (J3.21); also see (FD7.345). See also (FD5.35).
(FD7.333) The SP cannot release if the primary target is less than two hexes away when the conditions are fulfilled.

(FD7.3331) The SP will not voluntarily enter a hex adjacent to its target. If it tries to do so, the SP will adopt a station-keeping plot (C1.3224) and wait for the firing restrictions to allow release.

(FD7.3332) If the primary target moves to an adjacent hex, the SP will immediately switch to an evasive plot (C1.3223); it will move (away) on its next scheduled move (Turn Mode and other factors permitting) and, when two hexes distant, switch back to station-keeping.

(FD7.334) Damage to the SP is defined as follows. Note that if the SP shuttle is equipped with warp booster packs (J5.3), fewer damage points will destroy it.

(FD7.3341) If the SP shuttle is destroyed before it releases, all the drones it carries are also destroyed.

(FD7.3342) If, during the MW Release Step [Seeking Weapons Stage (6B6) of the Impulse Activity Segment] of any impulse, the SP has received (since launch) damage points equal to the premature release trigger level (FD7.31) but less than enough to destroy it, the drones are released. Note that a damaged SP cannot release if the target is inside the minimum range (FD7.333) or if it is less than 1/4-turn after launch (FD7.331).

(FD7.3343) Damage to the SP (short of destroying it) does not damage the drones it holds. If the SP is destroyed, any drones on board are also destroyed.

(FD7.34) RANDOM TARGETING: If the drones are targeted randomly (FD7.31-#4), the owning player must determine which target each drone will pursue. The drones can be released in any direction and are not limited to the facing of the non-fighter SP. See (FD7.444) in the case of a fighter SP and plasma SPs.
(FD7.341) Each drone is numbered by the owning player when the SP is launched. The first drone, i.e., the drone the player determined is #1, is targeted on the primary target (if that target is acceptable to the SP's programming). The second drone is targeted on the nearest enemy unit other than the primary target (acceptable to the SP's programming), the third on the next nearest acceptable target, and so on in the order the player numbered them when the SP was launched. The drones will accept targets at ranges of zero or one, although the SP's primary target must be at least two hexes distant. Each drone must have its selected target in its FA arc when placed on the map and is otherwise subject to all the normal rules for the movement of seeking weapons.

Exception: Type-VI drones will accept friendly units as targets; see (FD7.371). This does not apply to ATG drones or plasma torps.

NOTE: It is possible to set a primary target for the SP to follow, but have the submunitions targeted to pursue smaller and/or larger units on release so that none will pursue the primary target. In this case, the first drone will be targeted on the nearest acceptable enemy unit and so on.
(FD7.342) If two or more acceptable enemy units are equally near, roll a die to determine which is targeted first. No distinction is made between the units for any reason other than that established by the die roll.
(FD7.343) If there are not enough targets, the extra drones will repeat the random process starting (again) with the primary target. If there are not enough drones, some potential targets will not be targeted.
(FD7.344) It is NOT possible to target random submunitions on specific targets. The only options are the primary target or random distribution. All of the drones in an SP must be targeted in the same manner (random or primary) and set for the same size class(es). The only target discriminating factor that the player can set is target size class(es). For example, it cannot be set to accept fighters but not administrative shuttles. See (FD7.37) for a partial exception. Acceptable size classes cannot be set in an order of priority.
(FD7.345) If the SP itself has been distracted by a WW (J3.0), wild SWAC (J9.2), or scout (G24.23), drones set for the primary target will track the distracting unit, while drones set for random targeting will accept any qualified target, including the distracting unit including in

some cases the original primary target which was protected by the distracting unit.

(FD7.3451) If the primary target is protected by an unvoided WW, released submunitions will ignore the primary unit so long as the WW remains unvoided. Exception: (FD7.37).

(FD7.3452) If a WW is voided after submunitions have accepted it as a target, the drones would "revert" to the original target protected by that WW.

(FD7.3453) Dogfight drones which "accidentally" accept the protected ship as a random target (FD7.37) do so as an exception to (J3.201) and (F2.332). A WW is treated as the size of the unit it is protecting (J3.26).

(FD7.3454) All units distracted by a SWAC (or wild Scout PF) must pursue it, but if the SWAC ceased to be wild prior to the release of the submunitions, they could target the original primary target as part of the random process.

(FD7.3455) If the SP was originally distracted by a scout channel, randomly targeted submunitions may target the original primary target if it is a qualified target.

(FD7.346) If two (or more) SPs randomly release drones in the same impulse, the drones will not accept the submunitions of the other SP as targets. If released on different impulses, the later group will accept the drones of the earlier group as targets provided they are within acceptable size classes. It is entirely possible for some of each SP's drones to be targeted on the same unit(s). Simply because one SP has released seeking weapons which are targeted on a given unit, there is nothing to prevent a different SP from targeting the same unit, save only a careful tailoring of release times and ranges.

(FD7.347) A randomly targeted scatterpack (but not one with type-VI drones) can be programmed to only release its submunitions against "friendly" units. This might be done, for example, as a means of targeting type-IECM drones from a drone cruiser on other friendly or allied units in its fleet. This uses the same procedures as above, except that the drones accept friendly rather than enemy units as their targets.

(FD7.348) Drones released from a random scatterpack will treat "neutral" units as "enemy" units if such units otherwise meet their targeting instructions (FD7.344).

(FD7.35) LOCK-ON: The guiding unit must have a lock-on to each target or the drones cannot accept that target. All must have this designation at the time of release. See (FD7.37) for a partial exception. If no targets are acceptable, the drones are inert (FD1.7) and removed from play. The targets do not have to be in any particular relationship to the SP itself (i.e., they need not be in its FA arc); see (FD7.444) for fighter and plasma SPs. If a lock-on was retained to a cloaked ship, the SP will release its submunitions normally versus that target, using the true range to establish its release parameters. If using (G13.6), the moderator will have to determine when these conditions are met. Randomly targeted submunitions will ignore a cloaked unit that meets their targeting parameters if their guiding unit does not have a lock-on to that unit. (F3.54) does apply for transfer of control of SPs.

(FD7.36) OWNER CONTROL: The drones released by the SP must be guided by a unit from the same side that launched the SP and count against the guiding unit's control rating (F3.0).

(FD7.361) More than one unit may be initially assigned to guide the drones from the SP.

(FD7.362) All submunitions (including ATG drones and plasma torpedoes) must be guided on the impulse of release, after which they may be released to their own control. Type-VI drones are an exception to this rule; see (FD7.375).

(FD7.363) The release of the drones on an SP may (but is not required to) result in an immediate "involuntary" release of control of the SP (F3.532) so that an extra control channel is freed to control the drone (FD7.36). For example, a ship with a drone control rating of six guiding an SP with six drones could release control of its SP and immediately assume control of all six drones. Voluntary release of control of the SP is covered under (F3.531). [Of course, if the SP is launched ballistically (FD7.321) and (F4.42), this is a moot point.] SP shuttles (FD1.72) go inert after releasing their submunitions, and "control" cannot be voluntarily retained.

(FD7.37) DOGFIGHT DRONES (type-VI) placed in a scatter-pack are treated in a slightly different manner.

(FD7.371) RANDOM: If type-VI drones in an SP are designated to accept random targets, the conditions of (FD7.35) are ignored and the drones will (and must) accept any targets, including friendly units as an exception to (FD7.341), even if the SP itself has been distracted from its original target (FD7.345). Randomly-targeted type-VI drones cannot accept a target more than eight hexes away from the release point; they will accept targets at Range Zero or 1. If no acceptable targets are in range, the drones will not function and are removed. The size class of the target can be set as per (FD7.31-#4). This forms an exception to (F3.421). Type-VI drones on random targeting will attempt to acquire a cloaked unit within their detection range, but if they fail to gain a lock-on will target the next acceptable target.

(FD7.372) PRIMARY: Type-VI drones set for the primary target in an SP that has been distracted (FD7.345) will NOT revert to the original target but will accept the distracting unit as their target. While type-VI drones that have already accepted a ship as their target cannot be distracted by a WW (FD5.13), those drones released as submunitions are shown their target at the point of launch and accept whatever target the carrier vehicle was targeted on at that time. If the WW is voided after the type-VI drones accepted it, those drones do not revert to the original target but instead remain targeted on the WW. (While type-VI drones are themselves immune to WW distraction, they might have accepted the WW because they were launched at it, or launched by an SP with random targeting, or by an SP which had previously accepted the WW as its primary target.) See (FD5.133).

(FD7.373) If type-VI and normal drones are in the same scatter-pack with random targeting, the type-VI drones will be targeted first on the nearest targets. The non-type-VI drones will be targeted after the type-VI drones on the targets furthest away, starting with the closest one which was not targeted by a type-VI drone. If all available targets are targeted by type-VI drones, the non-type-VI drones will select a target within the normal sequence of targeting as per (FD7.34). These provisions apply to those drones distributed randomly. The first drone (FD7.341) will be targeted on the primary target. The player can establish, when launching the SP, which specific drone will be the "first" drone targeted.

(FD7.374) If type-VI and normal drones are in the same scatter-pack with primary targeting, there is no difference except that the normal drones will be distracted by a wild weasel while type-VI drones would not be if they have achieved their own lock-on.

(FD7.375) Type-VI drones are a special case. This is complicated by the fact that the SP may or may not have been ballistic (F4.4), may or may not have been "under control" of a unit, and the type-VIs may have been set for random or primary conditions. The key factor is whether the SP (or MW drone, which uses these rules) was under the control of another unit at the time of release or not.

(FD7.3751) If the scatter-pack was not under control of a unit, the type-VIs can gain their own lock-ons to units within eight hexes (and other normal conditions, e.g., not behind a planet). Only targets within eight hexes can be accepted, whether the SP was set for primary or random distribution. (Hint: Do not set a ballistic SP for a release range greater than eight hexes if it is loaded with type-VIs.) Such type-VIs would not count against the control limit of any unit.

(FD7.3752) If the scatter-pack was under control of a unit, then that unit can (but is not required to) control the type-VIs (which would allow them to accept targets more than eight hexes away) within the limits of its control channels and other rules. (Note that the controlling unit is providing guidance; target selection is defined by the programming of the SP.) Any "controlled" type-VIs would be assigned their targets last; any "uncontrolled" type-VIs would be assigned their targets first.

(FD7.38) MRS as SP: When used as an SP, a drone-armed MRS shuttle is armed and operated as per (J8.33). See (FD7.44) for plasma armed MRS SPs.

(FD7.39) TRANSFER OF DRONES: In combat situations, a captain might use an SP (not a multi-warhead drone) to transfer drones to a friendly ship. That ship, however, may not be able to use the drones, unless it has a drone capability. This is a desperation maneuver and is under some restrictions. (The same conditions would apply if an allied ship recovered an inert scatter-pack which was not originally intended as a means of transferring drones.)

Having a drone capability is defined as having drone racks or ready racks for drone-armed fighters.

This procedure (FD7.39) can be used only DURING a scenario, not before it begins. Also note that, while fighter-SPs could be used for this procedure, there is almost no reason for doing so.

See (FD7.393) for plasma-Ds.

(FD7.391) The only means of landing an SP with drones still loaded is by tractor or by beaming a pilot aboard (FD7.4153). Doing either would cause the SP to "go inert," and there would be no explosion as there might be with an enemy SP. If the receiving ship has a drone capability, the shuttle and the weapons can be reused, even as an SP (J1.861). If the SP was a fighter, there may be restrictions under (J4.8) as to reuse of the fighter.

There are several methods by which an SP can be used as a drone transport:

(FD7.3911) The SP can be launched on a ballistic course (F4.0), presumably to pass near the other ship (it would be set to accept no targets). The SP could also be targeted on that receiving ship or another nearby unit. Upon arrival, the receiving ship would tractor it or transport a pilot aboard.

(FD7.3912) The SP is launched (ballistic or seeking), and a pilot is transported on board by the launching ship or another ship. The pilot then flies the "inert" SP to the receiving ship.

(FD7.3913) The SP could be launched with a pilot on board, in which case it would immediately "go inert on launch" but the pilot would take over. The SP could not launch the drones (or fire the phaser, or take other actions prohibited to an inert SP with a pilot aboard), but could be piloted as a normal admin shuttle to the other ship.

(FD7.392) An SP can be landed aboard a friendly unit that does not have a drone capability. However, if the unit does not have that capability, it cannot program the shuttle as an SP or use the drones for any purpose (or launch the SP as an SP) because it does not have the electronics to do so. If the unit does not have a drone capability (e.g., all Gorn, Romulan, ISC, Hydran, Tholian, Andromedan, some Orion, and most Lyran units), it cannot use the drones in any way. Exception; the unit could load these "foreign" weapons onto a corresponding foreign fighter by (J4.8962), but only during a scenario. The shuttle could be used for any purpose except a WW (J3.16) or SP.

(FD7.393) The same procedures can be used for plasma-D-armed SPs, except that the ship must have a plasma-D capability to utilize the plasma-Ds. Having a plasma-D capability is defined as having plasma racks or ready racks for plasma-D-armed fighters/MRSs. Being armed with other types of plasma torpedoes does not constitute a plasma-D capability. Plasma-D and drone capabilities are not interchangeable. A ship armed with drones would not be able to use plasma-Ds unless it had that capability, and vice versa.

(FD7.394) In the case of a fighter armed with a plasma-F used as an SP, the plasma-F is ejected when the friendly tractor beam is applied to the fighter or a pilot is transported aboard. If the pilot was already aboard on launch (FD7.3913), the plasma-F would be ejected immediately upon launch.

(FD7.4) CONDITIONS AND RESTRICTIONS

(FD7.41) GENERAL RESTRICTIONS

(FD7.411) Once loaded with drones, an SP shuttle cannot be equipped as anything else [or launched with a crew, even under catastrophic damage (D21.413)] unless it is unloaded.

(FD7.412) A functioning SP cannot have a pilot. A pilot could be beamed aboard a friendly SP, but if this is done before weapons release, the SP goes inert and will not fire/launch its weapons (J1.861). Enemy SPs are boarded as per (D7.62).

(FD7.413) An SP cannot carry a suicide warhead.

(FD7.414) An SP cannot fire its phaser.

(FD7.415) Upon releasing its drones, the SP comes to a halt and remains in the release hex until destroyed or recovered by a ship.

(FD7.4151) If recovered by a friendly ship, it can be used for any mission suitable to its type subject to (J3.16).

(FD7.4152) All restrictions remain in effect until the shuttle is aboard a friendly ship and a deck crew (J4.814) spends one action (taking 32 consecutive impulses; only one deck crew can work on this) removing the special SP systems (J1.861).

(FD7.4153) A pilot beamed aboard after release could pilot the shuttle back to a ship (even by an indirect route), but could take no other action except that it can use EM (C10.13). If challenged to a dogfight (J7.0) after a pilot is beamed aboard, the shuttle could maneuver but could not fire any weapons and would probably be quickly destroyed. The unit's dogfight rating (J7.62) is not reduced.

(FD7.416) An SP rendered inert (FD1.72) before it releases all of its drones does not drop or release its remaining drones. Exception: Plasma-F torpedoes under (FD7.394). See (FD7.42).

(FD7.42) RECOVERY: A ship can recover its own SP (before or after it releases) by tractor beam as with any other shuttle. If another friendly ship recovers the SP, see (FD7.39). If an enemy ship recovers the SP, see below. However, an SP captured by enemy boarding parties under (D7.62) will regard the capturing side to be "friendly" and all other sides to be "enemy" for the purposes of this rule. Remember that tractoring a shuttle at high speed can sometimes destroy the shuttle; see (J1.212). An SP that is recovered before it released its drones can be relaunched by the side that originally owned that SP after it has been serviced for 32 consecutive impulses. During these 32 impulses, deck crews could add drones to and/or remove drones from the SP.

(FD7.421) If an armed SP is dragged into an enemy shuttle bay, it explodes as an armed suicide shuttle (J2.228). The explosion force is limited because only the drone fuel explodes. The force of the explosion of an SP is equal to three times the number of drone spaces carried (round fractional explosion points down). If six drone spaces were carried, the explosive force would be equal to eighteen points. Anti-drones do not count for purposes of the explosion. The explosion value is not increased if the drones had extended range.

(FD7.422) Plasma-armed SPs recovered as per (FD7.421) have an explosion force equal to the warhead strength of the plasma torpedoes they are carrying. A plasma-F equals twenty points, while a plasma-D equals ten.

(FD7.43) SPEED: An SP shuttle can be set to operate at any speed between zero and its maximum, inclusive. It cannot change speed after launch unless a pilot assumes control (FD7.412). It can be equipped with booster packs (J5.0) if these are available for that shuttle at that time and/or as provided by the scenario. It cannot use Erratic Maneuvers (C10.13) or HET (C6.0) unless a pilot has transported aboard (J1.861) and the unit is able to perform those functions when not an SP. Exception: An SP fighter can HET on the impulse it will release its drones (FD7.444).

(FD7.44) FIGHTERS as SP: A fighter could be used (without its pilot) as a scatter-pack. Note: Some of these rules apply to plasma-MRS shuttles; most MRS-SP rules are in (J8.33). A fighter used as an SP is no longer part of its squadron (J4.93) (at least until it is recovered and launched with a pilot.)

(FD7.441) In this case, the fighter could only carry its standard load of drones but would otherwise function exactly the same as a regular SP. Note that type-III drones and MW drones are prohibited from use in SPs; see (FD7.12). Fighter SPs use the weapons loading procedure for fighters, not the faster procedure for SPs.

(FD7.442) No deck crew action (J4.817) is required to prepare the fighter as an SP other than the normal loading of the seeking weapons. The fighter (or plasma-MRS) must be designated in writing as prepared for use as an SP during the Energy Allocation Phase of the turn. It can be held ready for this role indefinitely in game terms. Exception: Plasma-Ds are restricted by (FP9.22). A fighter-SP held aboard could have the SP systems removed by a deck crew and then launch as a normal fighter. It takes one deck crew action under (FD7.445) to remove the SP systems.

(FD7.443) A fighter or MRS shuttle armed with a plasma-F or plasma-Ds can be used as an SP, which at least has the advantage of launching the plasma torp(s) eight impulses sooner than a manned fighter can. Plasma-SPs cannot use (FP1.7) or (FP8.0). Unlike loading drones on an MRS, a plasma MRS can only carry as many plasma-Ds as it has launch rails.

(FD7.444) Fighters and plasma-armed MRS shuttles can only release their seeking weapons if their specific target is in their forward (FA) arc. For this purpose, a fighter designated as an SP can execute an HET on the impulse of release, this HET must be made during the Voluntary Movement Stage of the Movement Segment (6A1) of the impulse the release will occur. Plasma-armed MRS shuttles cannot HET, but must turn to face their target (turning within the rules) in order to launch their torpedoes. This could delay their release.

(FD7.445) A pilot can be transported aboard a friendly fighter used as an SP (J1.861), but the fighter cannot fire its weapons until it has returned to the ship and one deck crew action (taking 32 consecutive impulses, only one deck crew can work on this function) is performed to remove the SP systems (or reset them if it is to be reused as an SP) and (for non-SP use) restore the fighter's weapons. The deck crew removing the SP system could still reload chaff pods at the same time as per (D11.2). During this 32-impulse period, the fighter can be reloaded, repaired, and otherwise serviced. Before landing, the fighter (ex-SP) can use Erratic Maneuvers, High Energy Turns, Tactical Maneuvers, warp packs, and chaff. It cannot receive EW as part of a squadron (J4.93). If challenged to a dogfight (J7.0), it is under all the restrictions of (FD7.415).

(FD7.45) PSEUDO-SP: An SP shuttle could be launched without any drones on board (presumably to mislead your opponent), but must comply with all other requirements (J1.866). It requires one turn to prepare a shuttle as a dummy SP or to unprepare it. When it is time to release, the SP will simply stop and take no further action. The pseudo-SP is under all the restrictions of a standard-SP, e.g., it must land to have the SP guidance systems removed and its phaser cannot be fired until that has been done. If it is destroyed, there is no explosion and it is reported as a "shuttle". It has the defense systems of (D7.62). If boarders survive (D7.62) (even if the issue is in doubt), they automatically determine that the shuttle is a pseudo-SP.

NOTE: Pseudo-suicide shuttles (J2.226) can be prepared immediately because their command guidance is simpler. The shuttle will head for one target and continue until impact.

(FD7.46) TRACTORS: If the SP is held in an enemy tractor beam at the time of separation, it is under the same restrictions as a ship that is launching drones, in addition to the SP restrictions and the rules herein. See (G7.9432) for the restrictions on launching and targeting SP shuttles while being held in a tractor beam. Such a shuttle might also be destroyed by (G7.54).

(FD7.461) If targeted randomly or at the holding ship [because the holding ship is the primary target under (FD7.31-#4)], all will be targeted on the holding ship; if targeted on a ship other than the holding ship, the SP will not be triggered and the weapons will not be released until the tractor beam is released.

(FD7.462) If the SP is held in a friendly tractor beam at any time, it loses its tracking (G7.522), goes inert, and ceases to move, but it is not removed from the board.

(FD7.47) FRIENDLY FIRE: If a friendly unit fires on an SP, whether it scores damage or not, the SP goes inert (D1.53); it will not release its drones. Note that friendly (automatic or controlled) captor mines (M4.0) and defense satellites (R1.15) which fire on the SP with direct-fire weapons are considered to be friendly fire. Ship and mine explosions are considered neutral.

(FD7.48) CRIPPLED SPs: Scatter-packs (including fighters) are not forced to discard their drones when crippled as fighters are. Other than the slower top speed, they function as uncrippled SPs.

(FD7.49) SEEKING WEAPONS tracking an SP that releases will continue to track the shuttle itself (F2.336).

(FD8.0) MULTI-WARHEAD DRONES *(Commander's Level)*

The Kzintis deployed a multi-warhead (MW) type-IV drone in Y170 after observing the Klingon Stingray drone (FD16.0). This drone carries several type-VI drones which are used to break up incoming fighter, drone, or PF attacks.

(FD8.1) TYPES OF MW DRONES

(FD8.11) TYPE-IV-MW: The Kzinti MW drone is based on a type-IV drone. Instead of a warhead, it carries five type-VI drones (any speed available for the year). Other empires deployed smaller versions of it in Y175. It could be carried by some fighters able to carry type-IV drones.

(FD8.12) TYPE-III-MW: The Federation deployed a MW drone based on the type-III drone. It was carried by their ships from Y175 (and was copied immediately by other drone-using empires). F-14 fighters were modified (F-14A) to carry type-III-MWs from Y177, and other empires also modified fighters to carry it. This weapon has three type-VI drones instead of an explosive warhead.

(FD8.13) AVAILABILITY: Type-IV-MWs can be used by all drone-using empires from Y170; type-III-MWs and type-I-MWs can be used by all drone-using empires from Y175. See (FD10.6) for availability percentages, which are severely limited, and for advanced methods of construction (such as a type-IV frame with three submunitions and a standard drone warhead).

MW drones can only be used by ships (any drone-armed), drone-armed MRS shuttles, or by those fighters that are specifically noted as being able to use MW drones, such as the: Fed F-14 and A-20, Klingon Z-Y and Z-H, and Kzinti TADS and LAS. Fighters are only able to carry them on specific rails, and fighters equipped with those rails will probably not be available as early as the drones themselves are. Scatter-packs may never carry MW drones; see (FD7.12).

(FD8.14) TYPE-I-MW: Type-I-MW drones can be assembled under (FD10.0). A type-I-MW has three submunitions. Note, however, that fighters can only carry these on the "special" (type-III) rails; see (J4.233).

(FD8.2) SUBMUNITIONS

(FD8.21) TYPE-VI USED: Only type-VI drones can be used in a MW drone warhead. The type-VI drones in MW warheads are referred to as "submunitions." The MW drone itself is known as a "bus vehicle."

(FD8.22) OPERATIONS: The submunitions are released using the same rules and restrictions as the scatter-pack drone system (FD7.3), except that they can release on any impulse after the impulse in which the bus vehicle was launched. Note specifically the minimum release range in (FD7.333).

(FD8.221) After releasing its submunitions, the bus vehicle continues toward its primary target, but unless it is a special type built under (FD10.0), it causes no damage and is destroyed on impact. Seeking weapons targeted on an MW drone will continue to track the bus vehicle after it releases (F2.336). Note that an MW drone with random targeting for size class seven objects that is tracking an MW drone which releases its submunitions can have its submunitions

pursue the first drone's submunitions so long as one of its submunitions pursues the bus which launched them.
(FD8.222) Type-III-MW drones can also use "tame boar" (FD5.252) or "wild boar" (FD5.255) targeting (type-IIIXX only), in which case the drone will be eligible to release its submunitions only after the drone itself has acquired a target (FD5.252). This acquired target will become the drone's "primary target" for the procedure of (FD7.31). While the type-III bus vehicle can use the more sophisticated guidance system of (FD5.256) to find its target, this does not help the targeting for random submunitions, which still use the normal procedures under (FD7.34) and (FD7.371).

(FD8.23) UNLOADING: The submunitions are identical to all other type-VI drones and could be removed from the MW for use by other launchers able to use type-VI drones. Note that submunitions can only be removed from a drone that is in reload storage, and not from a drone that is in a drone rack or a fighter ready rack. If the submunitions are removed (this requires one-half deck crew action per type-VI), the MW is ruined and cannot be reloaded or used.

(FD8.24) SPEED: The speed of the submunition will, like the bus vehicle, be the appropriate speed for the year in which the scenario is set. It could be a higher speed if that was available as a restricted item (FD10.65). Note that the cost of speed upgrades for the submunitions is paid separately from and in addition to the cost of the bus vehicle; see (S3.2). This makes MW drones extremely expensive. See (FD8.4) for the costs of speed upgrades of MW drones.

(FD8.25) TRACKING: As individual drones can be tracked, when a MW drone releases its submunitions, these can be distinguished from other drones in the same hex. See (F2.6).

(FD8.3) CONDITIONS AND RESTRICTIONS

(FD8.31) SCATTER-PACKS: MW drones cannot be placed into scatter-packs (FD7.12).

(FD8.32) DAMAGE to an MW drone before separation does not affect the drones released. However, if the MW drone is destroyed, so are all the submunitions.

(FD8.33) CARRIAGE: MW drones can be carried by ships, MRS shuttles, and fighters with special rails (J4.23). They cannot be carried by SPs, DefSats, or captor mines.

(FD8.4) COST

(FD8.41) TYPE-III: A type-III MW drone with slow speed and slow submunitions would cost 3.5 points, and if replacing a type-I drone, the cost of the drone (one point) is deducted from the cost of the MW drone, so such replacement would cost 2.5 points. This assumes a Speed 8 type-III drone, which theoretically could exist. The standard Speed 12 type-III with Speed 12 submunitions would cost four points, three points if replacing a type-I drone.

Replacing a type-I drone with a type-III-MW drone (medium-speed frame with medium-speed submunitions) costs 3.75 points.

Replacing a type-I drone with a type-III-MW drone (fast-speed frame with fast-speed submunitions) costs five points.

(FD8.42) TYPE-IV: A type-IV MW drone with slow speed and slow submunitions would cost 4.5 points, and if replacing two type-I drones, the cost of the drones (two points) is deducted from the cost of the MW drone, so such replacement would cost 2.5 points.

Replacing two type-I drones with a single type-IV-MW (medium-speed frame with medium-speed submunitions) costs 4.25 points.

Replacing two type-I drones with a single type-IV-MW (fast-speed frame with fast-speed submunitions) costs six points.

(FD8.43) BUS: The cost of speed upgrades for the "bus" vehicle of an MW drone is the same for a standard type-III or type-IV drone as appropriate.

(FD8.44) SUBMUNITIONS: The submunitions of an MW drone can only receive speed upgrades, and the cost of this upgrade will be added to the total cost of the drone. The cost for each submunition is half the cost for a type-I drone receiving the speed upgrade. All submunitions on a given MW drone MUST receive the same speed upgrade. If one is to be made a fast type-VI, all must be made fast.
(FD8.441) The cost to upgrade all submunitions in a one space MW module to medium speed is 0.75 points. The cost to upgrade all the submunitions on a one-space MW module to fast speed is 1.5 points.
(FD8.442) The cost to upgrade all the submunitions in a two space MW module to medium speed is 1.25. The cost to upgrade all the submunitions on a two-space MW module to fast is 2.5 points.

(FD8.45) TYPE-I-MW: A type-I-MW with slow speed (both bus and submunitions) would cost 3.0 points (or 2.0 points if replacing a type-I). Replacing a type-I drone with a type-I-MW drone (medium-speed frame with medium-speed submunitions) costs 3.25 points.

Replacing a type-I drone with a type-I-MW drone (fast-speed frame with fast-speed submunitions) costs 4.5 points.

(FD9.0) ECM DRONES *(Commander's Level)*

The Klingons experimented with a modified type-III drone that carried an ECM generating transmitter instead of a warhead. Eventually, all drone-using empires used similar weapons, including those mounted on type-I and type-IV frames. This type of drone is available to all drone-using empires after Y150. ECM drones can be used for several missions, each of which is explained separately below.

(FD9.1) SHIP ESCORTS

(FD9.11) STATION KEEPING: When launched, the drone tries to follow the ship that launched it [or another unit designated by the launching ship, but see (G24.23)] but will never actually hit it, exception (FD10.443). The ECM drone is considered to be "following" the protected unit(s) under (P3.23).
(FD9.111) If an ECM drone enters the hex of its "target," it will continue to pursue that target. If it is in the same hex, it will immediately reduce or increase its speed to match the target's speed in an effort to stay in the same hex as its target, even stopping if the target does. Any speed increase must be within the limits of its maximum speed, e.g., a Speed 12 ECM drone could not keep up with a ship going faster than Speed 12. See also (FD9.18)
(FD9.112) Drones other than ECM drones and probe drones (FD6.0) cannot execute station keeping or change their speeds in any manner. Improved technology (XFD10.3) drones can be set to run at different speeds, and drones which can be programmed to change speeds may be added to the game at a later date. See (FD7.3331) for SPs and MWs.
(FD9.113) When released to its own ATG guidance (if it has ATG, which is not required), the ECM drone will also be subject to the rules for ATG drones (FD5.2).
(FD9.114) ECM drones do not need a lock-on to loan EW to their assigned ship, but are treated as if they had one (D6.317).
(FD9.115) ECM drones are not "ships" or even "shuttles". They are not in any way restricted to the normal speed restrictions that apply to other units. They are capable of maintaining and matching the acceleration of units whether the unit is a small freighter (max acceleration of three hexes a turn), or a warship (max acceleration of ten hexes a turn or double its current speed). ECM drones are not limited in how often they can change speed. They can move at Speed 32 (Fast ECM drone) to reach a target moving Speed Zero, and immediately drop to Speed Zero upon reaching the target, and immediately accelerate if the target does so, even if they only reached the target the impulse before the acceleration.

EXAMPLE: Speed 32 ECM drone moves Speed 32 to reach the hex of its target. On Impulse #27 it enters the hex of its target (a frigate) that is moving Speed 10 and it drops to Speed 10 to match the speed of the target. On Impulse #28 the target accelerates to Speed 20, and even though the drone just did a speed change from Speed 32 down to Speed 10 (violating the normal deceleration limits), it can and does immediately accelerate to Speed 20 to stay with the frigate. Even though this acceleration is less than eight impulses after the ECM drone's previous speed change.

(FD9.1151) ECM Drones move to track their target, and are limited in doing so as a seeking weapon, i.e., if the target moves in such a manner that the seeking weapon cannot stay with the target, the seeking weapon will have to maneuver to get back to it.

EXAMPLE: Ship is in hex 2215 heading A, ECM drone enters the hex of the ship (its target) from hex 2316 heading F. On the next impulse the target turns to heading B and moves to hex 2315. The ECM drone cannot immediately turn to remain with the target. It can execute an HET (remaining in hex 2215) to face in the same direction as the target on this impulse, and (assuming it is fast enough) move on the next impulse to enter hex 2315, and if the target is still there, it can then resume lending ECM to the target. *It does not have to do a High Energy Turn*, because the decision of whether or not to use the one HET every 32 impulses allowed to a seeking weapon is at the discretion of the player controlling the seeking weapon; he is never forced to use it. So the ECM drone could turn and enter hex 2214, then turn to enter hex 2314 and (if the target ship does not move again) wind up circling the unit it wants to lend ECM to, in which case the controlling player may decide to use its HET.

(FD9.1152) The ECM drone, once it arrives in the hex of its target, will move at whatever speed is necessary for it to remain with its target subject to the ECM drone's maximum speed. If the target is moving faster than its maximum speed, it will pursue the target at its own maximum speed in an effort to catch it. This is normally only a problem for slow speed or moderate speed ECM drones, sometimes a problem for medium speed ECM drones, and seldom a problem for fast ECM drones. If the target is moving faster than the ECM drone's maximum speed, even if the ECM drone is in the same hex as the target on a given impulse, it cannot provide the target with any ECM.

(FD9.1153) If the ECM drone can reach the hex of its target unit, and the target unit is moving no faster than the maximum speed of the ECM drone, the ECM drone begins lending the target ECM.

If the target is moving under its own power, neither tractoring or tractored by any other unit, not currently in a web hex, nor affected by terrain i.e., a black hole, this is pretty straightforward.

If the target is tractored by another unit, or tractoring another unit, the ECM drone adjusts its speed to accommodate the effective speed of the ship. The ship might have pseudo speed of ten, but have an effective speed of fifteen because of the effects of its pseudo speed combined with another unit.

If the combined pseudo speeds results in a speed greater than the maximum speed of the ECM drone, then the ECM drone cannot lend ECM, even if it happens to be in the same hex as its target unit.

(FD9.1154) An ECM drone in the same hex as its target that is tractored by a base will have a speed of zero, i.e., it will remain in the hex of its target. If the target is rotated (G7.7), the ECM drone will rotate with the target. If the target is released, the ECM drone will immediately accelerate to whatever speed is necessary to remain with its target.

(FD9.1155) If the target of an ECM drone is trapped in a web hex, the ECM drone will remain with the target. If the target is moving Speed 20 to get out of the web hex, the ECM drone will be moving Speed 20. If the target is moving Speed Zero, the ECM drone will be Speed Zero. The ECM drone has whatever speed the target unit has subject to its own maximum speed. While the target does not "move" while it is in the web hex, it is generating movement, and slowly moving through the web hex, and the ECM drone will do the same thing (just as any normal drone would cross such a web hex). This has several caveats:

A: If a Speed 32 ECM drone is moving to catch a unit in a web hex, it will impact the web hex at Speed 32 and may be destroyed under (G10.593).

B: If a target in a web hex protected by an ECM drone accelerates, the ECM drone accelerates to remain with it, and if such acceleration results in the drone moving faster than Speed 20, (G10.551) comes into play. The ECM drone might be destroyed, but would in any case be damaged as per (G10.593). If the strength of the web and the acceleration of the ECM drone to remain with the target is great enough the drone might have the number of damage points scored that are required to destroy it.

(FD9.1156) SPECIAL CASE: If the target of an ECM drone is tractored (or has tractored something), and the net effect of the combined pseudo speeds is that the target moves "backwards" (or otherwise moves opposite its direction of travel), the ECM drone *remains* with the target as long as the speed the target is moving is not greater than the speed of the ECM drone.

EXAMPLE: Ship A is in hex 2215 heading D. The ECM drone approaches the ship from hex 2214, heading D. Ship C tractors ship A, and because ship C is faster with a higher movement cost it starts hauling ship A backwards. The ECM drone is moved with the ship.

(FD9.12) ECM BENEFIT: An ECM drone generates three points of ECM, which protects itself and is also lent to its assigned target. The drone cannot begin generating ECM until four impulses after launch (and other conditions are met). The ECM drone is able to begin lending ECM on the third impulse after launch, but because drone launch follows EW lending in the Sequence of Play it cannot begin lending ECM until the fourth impulse, e.g., launch on Impulse #1, but not able to lend ECM until Impulse #5. The ECM generation continues for six turns after launch (less the four impulses required for activation), but the lent ECM benefit for the target is only felt when the drone is in the hex of its target.

(FD9.121) The operating life of six turns begins when the ECM drone is launched. The drone cannot begin broadcasting until it reaches the hex of the target. Both requirements (arrive in target hex; four impulses after launch) must be satisfied independently. Note that this does not mean four impulses after arriving in the target hex (although if escorting the ship that launched it, this will happen to be true by coincidence). Later, if the drone is temporarily not in the same hex as its target, it still receives its ECM for self-protection, and the moment it is back in the same hex as its target, it will resume lending its ECM to its target.

(FD9.122) Even if the drone ceases to operate temporarily because it has not remained in the same hex as its designated "target," it will cease operating exactly six turns from launch.

(FD9.123) Note that, if the drone frame used does not have extended range (FD2.222) or is not a type-III frame, the drone may cease operating sooner by running out of endurance. See (FD9.34).

(FD9.124) ECM drones provide their benefit to themselves and the unit they are assigned to protect. This protection is cumulative (for the drone) with the benefits of (E1.7) and (FD1.52).

(FD9.125) An ECM drone begins loaning ECM in the Lock-on Stage (6B3) (when other loaned ECM is calculated), assuming other requirements have been met.

(FD9.126) A given ECM drone destroyed during the movement or direct-fire segments of a given impulse is still considered to provide its benefits to the unit it is protecting until the end of the stage in which it was destroyed.

(FD9.13) MULTIPLE ECM DRONES: The effect of ECM drones is not cumulative.

(FD9.131) If two or more ECM drones are escorting a given unit, all will be producing ECM (and using up their endurance) but the unit will gain the benefit of only one of them.

(FD9.132) If the ECM drone being claimed as received ECM is destroyed, another of the ECM drones would begin lending to the unit immediately without any break in the unit's ECM level. (This concept is known as "flying spares.")

(FD9.133) Only one ECM module can be on any single drone; see (FD10.44).

(FD9.14) LENDING: The effect of ECM drones is included within the six-point limit (D6.392) and (D6.3144) on ECM lent to the unit.

(FD9.15) SINGLE TARGET: ECM drones used to escort a unit will provide ECM only to a single unit and, other than under the provisions of (G24.23), cannot protect any unit other than the one it was originally launched to protect.

(FD9.16) NO SHUTTLES: ECM drones cannot escort shuttles, which includes fighters.

(FD9.17) WILD WEASELS: ECM drones protecting a unit or launched to protect a unit which employs a wild weasel will accept the weasel as the unit they are assigned to protect. The drone will move to/follow the weasel.
(FD9.171) The drone will attempt to loan ECM to the WW but will be unable to do so because ECM drones cannot loan to shuttles, so the weasel will not benefit from the drone in any way.
(FD9.172) If the weasel is voided, the drone will begin to seek its original target.
(FD9.173) If the weasel is destroyed, the ECM drone will continue to track the explosion (vainly trying to lend ECM to said explosion). At the end of the explosion period, if the drone has not been destroyed (and the target it was to protect has not voided the weasel during the explosion), the drone will cease to function (be removed from the map) as there is no target.

(FD9.18) LIMITATIONS: ECM drones escorting ships have the following limitations:
(FD9.181) SPEED: If the ship moves faster than the fastest speed of the ECM drone, the drone cannot exceed its rated speed to keep up. The ECM drone will not loan ECM to a unit that is moving faster than the maximum speed of the ECM drone, i.e., a Speed 20 ECM drone cannot protect a Speed 21 ship, even if it is in the same hex.
(FD9.182) HET: If the protected unit executes an HET, the ECM drone can do so as well, but this costs it the equivalent of a hex of speed, and unless the ship is moving at least one hex per turn slower than the maximum rated speed of the ECM drone, the drone will not be able to move on the next impulse the ship moves. If an ECM drone is moving less than its maximum speed, and performs an HET on an impulse it was not scheduled to move, it will not lose its next movement. The drone can only perform one HET in any 32-impulse period (F2.13), and if the target unit executes a second HET, the drone will not be able to follow it and will be forced to execute a normal turn to try to catch up.

(FD9.2) ESCORTING DRONES

(FD9.21) PROCEDURE: An ECM drone can be used to "escort" other drones launched by the same ship (or SP, or fighter) on the same impulse and tracking the same target. This is under the following restrictions. The ECM drone is not revealed as such by its actions but only if identified (F1.4) or the only drone in a given hex. The ECM drone can be designated as either "following", or "leading" some or all of the protected unit(s) under (P3.23).
(FD9.211) If the ECM drone travels in the same hex with the drones it is assigned to protect, it escorts all of them as if they were a ship (i.e., fire against those drones is adjusted by three points of ECM). In this case, the drone is seeking the same target as the drones it is escorting, not the drones themselves. Note that this is a partial exception to (FD9.15) as the only limit to the number of drones that can be protected by a single ECM drone is the number of drone racks on the unit launching them, but only a single ship (FD9.1) could be protected by an ECM drone.
(FD9.212) An ECM drone escorting other drones impacts with those drones but will do no damage unless it was carried by a type-IV frame with some module that will damage the target. No matter what modules the ECM drone is carrying, it will impact the target if the drones it was escorting hit that target. Even if all the drones the ECM drone was escorting were destroyed, it would itself continue on until it reached its target (or was destroyed).
(FD9.213) ECM drones provide their benefit to themselves and the drones they are assigned to protect, and this protection is cumulative with the benefits of (E1.7) and (FD1.52).
(FD9.214) Any drones that are more than one hex from the escorting ECM drone for any reason cannot again come under the ECM drone's protection, and other drones that enter the ECM drone's hex and move along with it cannot be protected by it.

(FD9.22) RESTRICTIONS on drone-escorting ECM drones.
(FD9.221) No drone can receive ECM support from more than one ECM drone.
(FD9.222) It would be possible for one ECM drone to escort another ECM drone, but only if the second ECM drone was set in ship-protection mode and targeted on a friendly ship. In this case, ECM drone A (escort mode) would provide protection to ECM drone B (ship protection mode) while drone B was in transit. Upon arrival, drone A would "impact" (doing no damage unless it also had a damage-producing warhead, in which case the drone officer needs *serious* career counseling) while drone B would assume its assigned ship-protection role.

(FD9.3) TYPES OF ECM DRONES

The most common types of ECM drones are listed here. Additional types can be built using (FD10.44).

(FD9.31) TYPE-III: This is the original type. It is built on a type-III drone frame for extended endurance and self-guidance capability. It costs 0.5 points to replace a standard type-I drone with a type-III-ECM drone.

(FD9.32) TYPE-I: This is the most common type. It is built on a type-I drone frame. Unless extended range is paid for, the weapon will be able to generate ECM for only three turns. The drone must have guidance provided by a controlling ship as any other drone unless ATG is also purchased. It costs zero points to replace a standard type-I drone with a type-I-ECM drone. If ATG and extended range are added, each costs an additional 0.5 points.

(FD9.33) TYPE-IV: This type is built on a type-IV drone frame. It is constructed using the (FD10.0) rules, with the ECM generator replacing half of the warhead and another module replacing the other half. Cost depends on what is used in the other warhead space. Note that the ECM module cannot be combined with an armor module. See (FD10.44) for limitations on the use of other drone modules in combination with an ECM module on a two-space frame.

(FD9.34) ENDURANCE: The endurance of the drone and the ECM generator are separate. If the drone exhausts its endurance before the generator, the generator stops functioning. If the generator exhausts its operational period before the drone runs out of fuel, the generator will shut down and order the drone itself to go inert (FD1.7) unless the drone is a two-space frame with another module aboard and valid targeting; see (FD10.0).

(FD9.35) CARRIAGE: ECM drones can be carried by ships and MRS shuttles. They can be carried by SPs, although not if mounted on a type-III frame. Fighters can carry ECM drones but only fighters with "special" (J4.233) or "heavy" (J4.234) drone rails can use type-III frames. They cannot be loaded into DefSats or Captor mines.

(FD10.0) DRONE CONSTRUCTION *Commander's Level*

In addition to providing several new types of drones, this rule provides an explanation of how drones are built and modified.

(FD10.1) DEFINITION

(FD10.11) DRONE ANATOMY: Basically, all drones consist of two sections: propulsion and payload. The propulsion section determines the drone's range and speed. The payload section determines its mission. The sections are modular and interchangeable, although standard type-I drones (of whatever speed) will be the most common. A drone is assumed to come from the factory with an explosive warhead and a Speed 8 engine and is modified by the player by substituting other modules at a designated cost. All drones are type-I (slow) unless specified by scenario or unless the player pays for improvements.

(FD10.12) DESIGNATIONS OF STANDARD TYPES: The designations (e.g., type-I, type-IV) represent the most common combinations of components. A type-I drone, for example, is a one-space drone frame with a Speed 8 standard range propulsion module and a one payload space explosive warhead module.

(FD10.13) DOGFIGHT DRONES: It should be noted that so-called "dogfight drones" (type-VI, called type-IS in the oldest editions) are not included in this discussion and cannot be modified (except for speed), but can be improved under the provisions of (FD2.22).

NOTE ON X-DRONES: Many of these rules are modified for X-ships in section (XFD0.0).

(FD10.2) DRONE FRAMES

(FD10.21) SIZES: There are two types of drone frames: the one-space and two-space types. Each frame has space for a propulsion section and a payload section. The frame includes the standard guidance package.

There is also a third frame (the half-space type-VI), but as this cannot be modified as extensively as the others it is not necessary to discuss it in detail. Only the speed can be varied; see (FD2.22) and (FD10.52).

(FD10.22) COST: Under the point cost system, the frame is effectively free. Exception: type-III, which costs 1/2 point for standard 25-turn range and special guidance.

The propulsion (speed) and payload (e.g., warhead) modules, extended range, and any advanced guidance cost points.

(FD10.23) ACTIVE TERMINAL GUIDANCE: If ATG is added, it is added to the frame (cost = 1/2 point). ATG cannot be added to type-III drone, which already has a special type of guidance.

(FD10.24) TYPE-III-XX SPECIAL: Type-III drones are one-space drones, but when given extended range (FD2.222), they become type-III-XX, which are two-space drones with one payload space. Speed upgrade costs for type-III-XX drones are the same as for the two-space drone (FD10.52).

(FD10.3) PROPULSION

(FD10.31) GENERAL: There are four types of propulsion sections for each size or frame. The addition of higher speeds and/or longer range is covered in (FD2.22) and in (FD10.5). A drone cannot be launched without a propulsion module. You are not required to pay for speed upgrades (FD2.454) in a given year, but must if you wish to use them.

(FD10.32) SLOW (Speed 8): These were the original drones, designed for bombardment of fixed points and target practice. They are the "baseline" for drone cost calculations. They were used in combat, but were generally ineffective. (The Kzintis were able to get considerable use out of them by carrying more of them.) The need for improved drones set off a search for more speed.

(FD10.33) MODERATE (Speed 12): These drones were simply slow drones designed to burn their fuel faster. They were marginally more effective in ship-to-ship combat. Moderate-speed drones were available from shortly after the introduction of drones themselves. Endurance for these fast-burning drone motors is two turns (four with extended range).

(FD10.34) MEDIUM (Speed 20): These used a new type of fuel and engine. (Research into faster drone engines and more powerful fighter engines went hand-in-hand, with each reinforcing the other.) They came into service about the start of the General War.

(FD10.35) FAST (Speed 32): These used an even more powerful fuel and engine (related to the development of interceptor and PF engines).

(FD10.4) PAYLOAD

(FD10.40) GENERAL: One-space drones have one "payload space" to carry an explosive warhead or an instrument package. Two-space drones have two "payload spaces" designated as the forward and rear space (or the front and rear bay). (Note: Type-III-XX drones are two-space drones with one payload space.) There may, in future products, be drones with more than two payload spaces; this is noted for those two-PS modules that must be in the forward space.
(FD10.401) These spaces can be (but do not have to be) filled with payload modules as listed here.
(FD10.402) Some warhead modules can only be placed in the forward space. In *Advanced Missions*, this will apply only to a one-PS module in a two-PS drone (as one-PS drones have only one space, which is forward), but later products could introduce drones with more than two payload spaces. See (XFD10.4).
(FD10.403) Individual modules may have special rules restricting or prohibiting their deployment or use with other modules. The rules for each module must be fully complied with, which may prohibit the use of some module combinations. For example, a two-space drone with a probe module, an ECM module, and an external armor module (FD12.13) cannot exist; while (FD10.422) permits an ECM module and an external armor module to be associated with a probe module, (FD10.443) prohibits the association of an ECM module with an armor module.

(FD10.41) EXPLOSIVE MODULES are the standard drone payload (or warhead). There are two sizes:

1/2 payload space = explosion strength six
1 payload space = explosion strength twelve

Two-space drones (such as type-IV) carry two one-payload space explosive modules (or four 1/2-space modules).

The use of the term "explosive module" in other rules generally means a "one PS explosive module" unless noted otherwise.

All of the explosive modules on a given drone are combined into a single explosion; they are not resolved as separate volleys. There is no difference between two 1/2-space and one 1.0-space module.

(FD10.42) PROBE MODULES are covered in (FD6.0). All probe modules occupy one payload space, but no more than one can be placed on a given drone.
(FD10.421) There is no cost to replace an explosive module with a probe module.
(FD10.422) The probe module can be combined with other modules on a two-space drone or have external armor added to its drone frame. (The most common two-space probe drone had armor to improve survivability.) The probe module can be in any payload space.
(FD10.423) If an ECM module is included with the probe module on a two space frame, the launching player must designate on launch if the ECM module will provide ECM to the target of the probe module, other drones traveling with the probe drone, or only to the probe drone. See (FD10.443).
(FD10.424) If a probe module is combined with any "targetable" module (a module which, if mounted alone on a drone, would normally be targeted on a single target), the resulting drone cannot use the special probe drone guidance system of (FD6.22). Furthermore, such a drone will attack or impact on its target; this supersedes (F2.413). This is because the other module is required to have a designated target before launch. For example a drone with both a probe module and an ECM module (or an explosive, MW, swordfish, or spearfish module) cannot use (FD6.22), while a drone which combines a probe module with an armor module can use (FD6.22).
(FD10.425) A drone consisting of a probe module mounted on a type-III frame presents the launching unit with several options (only one of which can be chosen):

(FD10.4251) It can launch the drone using the special probe drone guidance system (FD6.22), in which case it will operate exactly as described in that section (but with the improved endurance of the type-III frame).
(FD10.4252) It can launch the drone under normal ATG guidance (FD5.21), in which case the drone uses the normal probe drone guidance system of (FD6.21) [it cannot use the guidance system of (FD6.22)].
(FD10.4253) It can launch the drone on a purely ballistic course, in which case the probe module will function normally under (FD6.23) (but with the improved endurance of the type-III frame).
(FD10.4254) It can launch the drone on a ballistic course under the special type-III guidance rules, either "tame boar" (FD5.252) or (type-IIIXX frame only) "wild boar" (FD5.255), in which case when the type-III frame accepts a target (FD5.252) it will pursue that target using the procedure of (FD6.21) [it cannot use the guidance system of (FD6.22)].
(FD10.4255) Under any of these options, since the probe module is the only targetable payload on a type-III frame, the drone will not impact on its target (F2.413). However, if in the future there appears a two payload space frame using type-III technology, if the other module qualifies as being "targetable" under (FD10.424) above, only if using options (FD10.4252) or (FD10.4254) will the drone attack or impact on its target. Note

that type-III technology can use the more accurate targeting system of (FD5.256), which (among other capabilities) will permit the assembly of a very long-range probe drone (using a type-III-XX frame) which can be assigned to obtain intelligence about a very specific target.

(FD10.43) MULTI-WARHEAD MODULES are covered in (FD8.0). The actual submunitions are part of the cost of the MW module; but their speed upgrades will cost extra (FD8.44).
(FD10.431) There are two sizes. The smaller occupies one payload space and carries three submunitions. The larger occupies two payload spaces and carries five submunitions.
(FD10.432) No more than one MW module can be on a single drone, and an MW module must be in the forward payload space(s). It would be possible to place a small (three-submunition) module on a two-space drone along with an explosive module, allowing the carrier drone to damage the target after releasing its submunitions. Other combinations are also possible.

(FD10.44) ECM MODULES are explained in (FD9.0). See (FD10.423) and (FD10.424) for the interactions of probe and ECM modules.
(FD10.441) There is no cost to replace an explosive module with an ECM module.
(FD10.442) No more than one such module can be placed on any drone; the module occupies one payload space (which can be either space; it need not be forward).
(FD10.443) The ECM module can, within the limits of other modules, be combined with any other module in the game except an (internal or external) armor module. ECM drones will not work with armor modules. Note that an ECM module in a two-space drone with an explosive module could not protect a ship as the explosive module would detonate on the target ship. It could protect a wave of drones that it was launched with to hit a designated target. This also applies to swordfish and spearfish modules.
(FD10.444) If combined with an MW module, the submunitions can be set for random targeting once the drone has reached release range from the primary target, but release range will be based on the primary target of the drone. For example, an ECM module with an MW module launched to protect your ship with EW will release its submunitions on approaching your ship, unless your ship launched it, in which case it probably would not be able to release the submunitions at all due to the minimum release range in (FD7.3). If the submunitions were targeted randomly on a ship of your size class, they will attack your ship. If targeted randomly for drones or shuttles, they will look for such targets on release and go inert if there are none in range.

(FD10.45) SWORDFISH MODULES carry phasers, which they can fire at their targets; see (FD11.0). Swordfish modules must be in the front position (FD11.11).

(FD10.46) SPEARFISH MODULES have special shield-piercing warheads and are defined in (FD14.0). Spearfish modules must be in the front position (FD14.11).

(FD10.47) ARMOR MODULES are used to improve the survivability of a drone. They are defined in (FD12.0) and (FD13.0). They can be in the front or rear bay. Some modules require that they be placed in a specific bay. When this occurs, the internal armor must be placed in the opposite bay. Armor modules can be added externally (taking up no payload spaces but slowing down the drone) (FD12.13).

(FD10.48) NULL MODULES: A player could, for whatever reason, simply remove and discard the explosive warhead and launch the drone with no payload at all. It would act as a normal drone and could not be detected as having no warhead; it would not explode or cause damage when it reached its target (it would be destroyed by the "impact"). Null modules look like explosive modules even if identified under (G4.231).

(FD10.49) OTHER MODULES: Future products may include additional modules. Several are under development.

(FD10.5) MODULE COST CHARTS (UPDATED)

(FD10.51) PAYLOAD MODULE COST

MODULE	1/2–PS	1–PS	2–PS
Explosive	0.25	0.50	1.00
Probe	–	0.50	–
MW	–	2.50	3.50
ECM	–	0.50	–
Swordfish	–	1.00	2.00
Spearfish	–	1.00	2.00
Starfish	–	2.50	3.50
Stingray	–	1.00	–
Armor	0.25	0.50	1.00
Ext Armor	0.25	0.50	–
Null	0.25	0.50	1.00

(FD10.52) PROPULSION MODULE COST

MODULE	1/2–SP	1–SP	2–SP
Speed–8	–	0.50	1.00
Speed–12	0.25	1.00	1.50
Speed–20	0.50	1.00	1.50
Speed–32	0.75	1.50	2.00

(FD10.53) FRAME COST ADDITIONS

ITEM	COST
Active Terminal Guidance	0.50
Extended Range	0.50
Type–III Frame Surcharge	0.50

(FD10.54) USING THE COST CHARTS: Using these charts, any drone can be built and the cost calculated.

There is a chance for confusion between these costs and those shown in (FD2.1). The costs here are for an extra drone ("bought on the open market" so to speak), while the costs in (FD2.1) are the costs of trading in type-I-slow drones for the improved drones.

For example, a standard type-V drone would cost 2.5 points (one for the double warhead and 1.5 for a Speed 12 engine). The chart in (FD2.1) shows that this drone costs 0.5 points more than two type-I drones, which of course cost one point each (total 2.5).

There is an error regarding type-III drones in the earliest printing of *Basic Set* (FD2.11) which causes even more confusion. It actually costs 0.5 points to trade a type-I drone for a type-III, but this results in a Speed 8 type-III drone. (Technically, there is no such thing, but it is theoretically possible to build one.) Trading a Speed 8 type-I drone for a Speed 12 type-III costs 1.0 points, not 0.5 points.

(FD10.6) AVAILABILITY

The rules here provide for the availability of drones published through *Advanced Missions*. Any new drones or modules not listed here will include data on their availability in their own rules sections.

(FD10.61) GENERAL AVAILABILITY: These are the most easily-produced and widely available drones and drone components.
(FD10.611) General Availability includes:
explosive modules,
frame types-I and IV,
extended range
and ground bombardment drones (E20.37).
(FD10.612) Any or all of the drones on a ship can be General Availability items.

(FD10.62) RESTRICTED AVAILABILITY: These types of drones and drone components are not as widely available as General items.
(FD10.621) Restricted Availability includes:
probe modules,
ECM drones,
armored drones,
and ATG guidance.
(FD10.622) No more than 25% of the drones on any ship can be (or contain) Restricted Availability items. Exceptions (marked "D%" on Annex #3: Master Ship Chart):
Kzinti ships are allowed 50% Restricted Availability.
Carriers with ten or more fighters, or five or more heavy fighters, are allowed 50% Restricted Availability.
Any other unit with "D%" or "DB" in the notes column of the Master Ship Chart/Annex #3.
Type-III-ECM drones on Klingon ships are Restricted Availability.

(FD10.63) LIMITED AVAILABILITY: These are the most expensive, hardest to build, and least likely to be available drones.
(FD10.631) Limited Availability includes:
Multi-warhead drones,
Swordfish drones,
Slug drones,
Spearfish drones,
External armor,
type-III frames.
(FD10.632) No more than 10% of the drones on any ship can be (or contain) Limited Availability items. Exceptions (marked "D%" on Annex #3 Master Ship Chart):
Kzinti ships are allowed 20% Limited Availability.
Carriers with ten or more fighters, or five or more heavy fighters, are allowed 20% Limited Availability.
Any other unit with "D%" or "DB" in the notes column of the Master Ship Chart/Annex #3.

(FD10.64) OVERALL RULES: The allowed percentage of Restricted Availability drones includes the limit on Limited Availability drones.
EXAMPLE: Kzinti ships can have 50% General Availability, 30% Restricted (and/or General) Availability, and 20% Limited (and/or Restricted and/or General) Availability drones.
(FD10.641) All percentages are based on "warhead spaces" of drones in drone racks, and fighter ready racks or launch rails (FD2.45). Round fractions of 0.49- down and 0.50+ up. Note specifically that this rule allows a ship with a type-A drone rack to have a type-IV drone with an ECM module (Restricted Availability 25%) and an explosive module. Frame modifications, e.g., speed upgrades, external armor, extended range, ATG guidance, or type-III frames (others that may be added at a later date) apply to the entire drone unless a warhead is of a more restricted type. A type-IV drone with Medium Speed in Y166 counts as two spaces of Restricted Availability even if both of its payload spaces are General Availability items. Such a Restricted Availability drone might have a Limited Availability module in one of its payload spaces, in which case it would be considered as one space of Restricted and one space of Limited availability. Note that a type-III frame (Limited Availability) to which the extended range frame modification (General Availability) is added becomes a two-space Restricted Availability drone (FD10.24).
(FD10.642) Player-designed scenarios must obey the restrictions unless both sides agree not to. See also (S3.2).
(FD10.643) Type-VI drones are not included in any of the calculations to determine how many special drones a given ship may carry. Exceptions: For purposes of type-G drone racks, type-VI and ADDs loaded in the rack count as "General Availability" drone spaces, e.g., a type-G rack on a non-Kzinti or non-carrier ship might have one restricted availability drone space and three spaces of type-VI or ADDs or a combination of the two. Type-VI spaces that receive speed upgrades in some years (FD10.65) count against the G-rack's Restricted and Limited Availability drone spaces. Type-G drone racks and ADD racks replacing some of their ADDs with type-VI drones compute the availability of speed upgrades (FD10.65) based on the numbers of type-VI drones, not ADDs.
(FD10.644) Fighter squadrons count type-VI drones loaded on type-VI rails separately from all other drones. Note that whatever is in the fighter ready racks counts against total carrier storage (J4.72).
EXAMPLE: A squadron of twelve fighters with 24 type-VI and 24 type-I drone rails computes the number of limited and restricted availability speed upgrades of its type-VI drones under (FD10.65) allowing it in Y166 to have twelve type-VIM drones, the remainder being type-VIS. In that year half of the type-Is could also be Medium speed. A loadout would thus be twelve type-IM, twelve type-IS, twelve type-VIM, and twelve type-VIS, or eighteen spaces of Medium speed drones and 18 spaces of slow speed drones (remembering that type-VIS are actually Speed 12). Drone spaces in reload storage will be proportional to the loading of the fighters, so if the carrier had 100 spaces of reload storage, it would have 49.5 spaces of Medium speed (33 type-IM and 16.5 type-VIM) and a like number of slow drones. The remaining space could be a type-IM as (FD10.641) allows the half space to be rounded up. Note that some type-IMs may also be armed with various non-explosive modules, or the player may choose not to upgrade a type-I drone to Medium speed but still equip it with some other type of module. A player could also choose not to upgrade any of the type-VI drones, but the type-VI drones would still account for 33 spaces of his reload storage.
(FD10.645) Fighter squadrons count type-VI drones loaded on non-type-VI rails [(FD2.52) and (J4.23)] as a space of General Availability for each such drone, and a space of reload storage. A fighter with four type-I rails could have one restricted availability drone (25%) and three type-VI drones and would calculate its part of the drone stockpile (FD2.43) as one Restricted availability drone and six type-VI drones. This rule also covers RALADS (J12.0).
(FD10.646) Fighters with "special rails" (J4.233) able to carry type-III frames and MW modules are still subject to the rules for determining initial drones and reloads. They do not form an exception allowing additional limited availability drones to be purchased, and many of the initial drones in the ready racks for these rails may be of general or restricted types.
(FD10.647) Extra drones purchased as Commander's Options do not include reloads and must adhere to the drone percentages, e.g., if a Kzinti purchased two extra drones, one could be a restricted type, a Klingon or Federation non-carrier non-DB ship would have to purchase four drones for one to be a restricted type.

(FD10.65) DRONE SPEEDS: Medium speed drones are Limited in Y165, Restricted in Y166, General in Y167. Fast drones are Limited in Y178, Restricted in Y179, General in Y180. A type-I drone with medium speed in Y166 (restricted) and a Swordfish module (limited) would be a limited availability drone. A type-IV medium speed drone in Y165 (limited) with explosive modules (general) is two spaces of limited availability. A type-IV fast speed drone in Y179 (restricted) with an explosive module (general) and a swordfish module (limited) is a space of restricted (the speed upgrade) and a space of limited (the swordfish module).

Moderate speed drones were invented in Y77 and were Limited Availability until Y100, then became Restricted Availability. They became General Availability items in Y120.

(FD10.651) SPEED AVAILABILITY DATES

SPEED	LIMITED	RESTRICTED	GENERAL
Moderate	Y77	Y100	Y120
Medium	Y165	Y166	Y167
Fast	Y178	Y179	Y180

(FD10.66) MIXED MODULES: Drones with a payload of two types (e.g., a 1/2 space of armor and a 1/2 space of explosive), are considered to be one space of the more restricted type for purposes of the percentages. (Note; there are no "half spaces" of drone warheads, mixed spaces are counted as the more restricted type of the two halves.) Use warhead spaces, for this determination, e.g., a type-IV drone with an MW module, a half space explosive module, and a half space armor module would be considered as a space of Restricted and a space of Limited availability. Note that frame modifications (ATG, external armor, etc.) apply to the entire drone.

EXAMPLE: A ship has ten drone spaces and is allowed to have one of them (10%) of the Limited Availability type. The player selects a type-I probe drone with external armor.

(FD10.67) SPECIAL CASES: Some ships receive special drone percentages based on their missions.

(FD10.671) Drone bombardment ships on a bombardment mission can have 100% of their drone spaces taken up by type-III-XX drones (S3.222). Drone bombardment ships are marked with a "DB" on the Master Ship Chart (Annex #3). The modules on those drones remain under the original percentages, but note that a type-III-XX drone is a two-space drone with a single payload space (FD10.24), i.e., six type-B drone racks would hold 36 spaces of drones but only eighteen payload spaces for warhead calculation purposes.

(FD10.672) Survey cruisers of drone-using empires performing survey missions can have up to 50% of their drones (warhead spaces) loaded with probe modules. (Any restricted or limited drones would be part of this 50%.)

(FD10.673) Scout ships of drone using empires (including survey ships used in combat) can have up to 50% of the drones (warhead spaces) loaded with either ECM or probe modules. (Any restricted or limited drones would be part of this 50%.) This rule applies only to ships designated in their ship description as scouts, or survey cruisers. PF tenders, area control ships, division control ships, patrol carriers, and bases are not considered to be scouts or survey cruisers, PF scouts and survey PFs are not considered to be scout ships or survey ships for this rule. Scout carriers are scouts. Survey cruisers acting as light carriers are still considered to be survey ships, but survey ships acting as commando ships are not considered to be survey ships.

(FD10.7) COMBAT NOTES

(FD10.71) IMPACT: Regardless of drone size or armor, the impact of a drone on a drone will destroy both drones. There are some exceptions; see (FD1.562).

(FD10.72) ASSEMBLY: The assembly of drones is normally done at a base or factory. While changes can be made on board a ship, they cannot be made during a scenario; exception: (FD8.23). Changes aboard ship would be limited to disassembling and reassembling no more than two drones between any two consecutive scenarios of a campaign or mini-campaign, and could never be done in Patrol or individual scenarios or before a campaign begins.

(FD11.0) SWORDFISH DRONES
Commander's Level

First developed by the Klingons in Y174, swordfish drones do not carry an explosive warhead, but instead carry a phaser equipped with a targeting sensor and a power pack adequate to fire the phaser a single time. Swordfish drones are not efficient damage producers. Their primary use is in disrupting enemy defense planning. As swordfish drones can cause damage from several hexes range, the target cannot wait until the last moment to identify or engage every drone.

The inclusion of a swordfish drone among a drone swarm forces the enemy to accept some damage or re-think his drone defense doctrine.

(FD11.1) CONSTRUCTION

There are two swordfish modules. See (FD10.45). Both modules were available in Y174 to all empires.

(FD11.11) PHASER-3: The phaser-3 module occupies one payload space. Two such modules cannot be placed in a two-space frame because the module requires the forward position. A phaser-3 module could be combined with another one-PS module in a two-space frame.

(FD11.12) PHASER-2: The phaser-2 module occupies two payload spaces and can obviously be carried only by a two-space or larger frame.

(FD11.2) OPERATION

(FD11.21) TARGETING: At the time of launch, the owning player records for the drone the range from its target at which it will fire. When the drone first reaches the range (or less) during the Movement Segment (6A) that its firing parameters are met it commits to fire (this commitment is not announced). It fires its phaser at the target in the Direct Fire Weapons Fire Stage (6D2). This is resolved exactly as if the controlling ship had fired a phaser of the appropriate type from the drone's hex (not the ship's hex) to the target, including the effects of terrain, electronic warfare, etc. The record of the drone's instructions should be revealed at this point, but not the identification of a second payload space if any. During the interim period between commit and fire, the Swordfish could be prevented from firing by various means (e.g., turned off by special sensors) or distracted (e.g., by a wild weasel) to a different target.

(FD11.22) RANGE: The maximum range of a swordfish phaser is eight hexes. There is no minimum range.

(FD11.23) ELECTRONIC WARFARE: The swordfish drone does not have any built-in ECCM. It could, however, be equipped with ATG (which has ECCM). As with any other drone, a swordfish drone does benefit from the ECCM of the unit controlling it. The benefit of the ECCM of the guiding ship is taken from the location of the drone, not the controlling unit. Thus a Swordfish drone might benefit from the ECCM status of the guiding ship but not be affected by hexes of asteroids between the guiding ship and the target ship.

(FD11.24) TARGETS: Swordfish drones will accept plasma torpedoes and other drones as targets. They cannot be used against mines.

(FD11.25) POST-FIRING: Normally the firing of a swordfish drone is its last act. Having fulfilled its only purpose, the weapon simply burns up (as all drones do at the end of their endurance). However, a two-space drone equipped with a one-PS phaser-3 module might carry another module in the rear payload space (within the limit of the rules). If this is the case, the drone will continue to seek its target unless the specific rules for the rear module require otherwise.

(FD11.26) CARRIAGE: Swordfish drones can be carried by ships (including bases and PFs/Interceptors), fighters, MRS shuttles, and scatter-packs. They are never used in captor mines or DefSats.

(FD11.27) FIRING ARC: The phaser has an FA firing arc. If the target is out of arc at the time firing is programmed, firing will be delayed until the range and arc requirements are met.

(FD11.28) DELAY: There is no firing delay after launch (as there is for a shuttle), except that the drone cannot fire in the impulse during which it was launched.

(FD11.3) COST

The cost of a phaser-3 module is 1/2 point more than a one-PS explosive module. The cost of a phaser-2 module is one point more than a two-PS explosive module. See (FD10.6) for availability.

(FD12.0) ARMORED DRONES
Commander's Level

There is not one single type of armored drone; virtually any drone can be armored. The term "armor" is somewhat misleading. The effect of an increased damage rating is created by shielding and evasiveness, in addition to shielding of warhead components against the electromagnetic disturbance of nearby weapons fire.

There has been considerable debate as to the value or efficiency of armored drones. From a theoretical standpoint, it would be better in almost every way to launch two non-armored drones. But that is not always possible due to limitations on launching rates, drone control, and ammunition supply. Armored drones also have considerable value when fighting Lyrans (with their ESGs) or in asteroid fields.

(FD12.1) CONSTRUCTION

(FD12.11) MODULES: There are two armor modules available. The smaller occupies 1/2-PS and the larger occupies one-PS. The most common armored drones are a one-space type-I drone with a 1/2-PS armor module and a 1/2-PS explosive module, and a two-space payload equipped with a one-PS armor module and a one-PS explosive module. These modules are added to drones using the construction rules; see (FD10.47).

(FD12.12) MULTIPLE ARMOR: A given drone can be equipped with more than one armor module. For example, a type-I drone could be equipped with a one-PS armor module and no warhead and used as a slug drone (FD13.0). Or a type-IV drone could be equipped with a one-PS armor module, a 1/2-PS armor module, and a 1/2-PS explosive module.

(FD12.13) EXTERNAL ARMOR: There is a modified armor module which can be attached externally; i.e., in excess of the normal payload space limit.

(FD12.131) No more than one external armor module can be added to any one drone. External armor cannot be placed on a drone equipped with internal armor.

(FD12.132) External armor reduces the speed of the drone according to the chart below:

DRONE SIZE		ORIGINAL SPEED			
(+ Armor)		32	20	12	8
1sp	(+1/2)	20	12	8	4
1sp	(+1)	12	8	4	2
2sp	(+1/2)	26	16	10	6
2sp	(+1)	20	12	8	4

Note that "drone type" is shown as the size of the drone (one space or two space) plus the size of the armor (1/2-PS or one-PS). Type-III-XX drones are treated as one-space drones.

(FD12.14) DRONES ONLY: Armor cannot be added to non-drone objects (e.g., shuttles, mines, DefSats, etc.).

(FD12.2) OPERATION

(FD12.21) EFFECT: The effect of an armor module is to increase the number of damage points required to destroy the drone. The 1/2-PS module adds two damage points; the one-PS armor module adds four damage points.

(FD12.22) CARRIAGE: Armored drones can be carried by any drone-using unit.

(FD12.3) COST

(FD12.31) INTERNAL: Replacing explosive modules with armor modules is done without cost.

(FD12.32) EXTERNAL: Adding external armor (which is, technically, a frame cost addition) costs 0.25-points for the 1/2-PS module and 0.5 points for the one-PS module.

(FD13.0) SLUG DRONES
Commander's Level

Slug drones are not a specific type of drone, but simply an armored drone that carries nothing but armor modules (i.e., no warhead). Slug drones, because they can absorb more damage than standard drones, have some use against Lyrans (with ESGs) and in leading the way through asteroids (P3.23). Rules for building and using these drones are covered in (FD12.0). If a slug drone reaches the hex of its target, it simply self-destructs without causing any damage. See (FD10.63).

(FD14.0) SPEARFISH DRONES
Commander's Level

While the Klingons developed swordfish drones in Y174 to confuse Kzinti and Federation drone defenses, the Kzintis developed the spearfish drone within weeks to take advantage of the susceptibility of the "lean and mean" Klingon ships to internal damage. All other drone-using empires copied it in short order. Spearfish drones use a special X-ray generating nuclear warhead which concentrates its relatively small output against a single point, rather than distributing it across the entire shield. The effect is to punch through the shield, scoring one or two points of internal damage while leaving the shield effectively intact.

The obvious value is that, regardless of shield strength, at least some internal damage will be scored. It should be noted that the shield-piercing system is based on the unique characteristics of the drone. No other weapon (including suicide shuttles) can be used in this manner, except, of course, for the "Leaky Shields" rule (D3.6). This drone cannot be effectively combined with that rule, but is not needed if that rule is in use.

(FD14.1) CONSTRUCTION

There are two spearfish modules which can be installed in drones; see (FD10.46). Both modules were available in Y174 to all empires.

(FD14.11) SMALL: The one-PS module causes three damage points. If in a two-space drone, it must be in the forward space and the rear space cannot contain an explosive module.

(FD14.12) LARGE: The two-PS module causes six damage points.

(FD14.2) OPERATION

(FD14.21) DAMAGE PROCEDURE: When a spearfish drone strikes a target, the damage scored is determined by the size of the spearfish module:
(FD14.211) A small module (one-PS) will score one internal damage point, regardless of the strength of the shield or any reinforcement applied, and two points of shield damage (which could be absorbed by reinforcement).
(FD14.212) A large module (two-PS) will score two internal damage points, regardless of the strength of the shield or any reinforcement applied, and four points of shield damage (which could be absorbed by reinforcement).
(FD14.213) In all cases, if the strength of the shield including any reinforcement applied is less than the shield damage scored, any shield damage in excess of what the shield will absorb is also scored as internal damage.

EXAMPLE: A type-IV drone with a large spearfish module strikes a shield which has a strength of only two boxes. Two points of internal damage will be scored on the ship, two points will eliminate the shield, allowing the remaining two points to also be scored as internal damage. If one point of shield reinforcement had been allocated to the shield, then only one of the two excess points of shield damage would be scored as a point of internal damage. If, at the time of impact, three points of reserve power were applied to the shield, these three points together with the one allocated reserve point would block all the damage to the shield, but the ship would still take the two points of internal damage. It would still have a two-box shield in which it could place reinforcement energy at a later time.

(FD14.22) SHIELD REINFORCEMENT: In all cases, shield points generated by reinforcement are considered to be "shield boxes." The order of precedence is General Reinforcement, Specific Reinforcement (including reserve power), and printed boxes. Any reserve power committed to the shield is converted to Specific Reinforcement (or General Reinforcement). Note that reserve power cannot stop the points which automatically penetrate.

(FD14.23) ANDROMEDANS: If a spearfish drone strikes an Andromedan ship, it treats the panels the same as a shield. For example, a large drone will score two points of internal damage on an Andromedan ship and place four points of power into the ship's panels (if they were operating and not already full).

(FD14.24) ORDER OF RESOLUTION: If several drones strike a given shield on the same impulse, the spearfish drones are resolved first. All internal damage is resolved as one volley (D4.22) regardless of how many and what type of seeking weapons caused it.

(FD14.25) MULTIPLE SPEARFISH: If several spearfish drones strike the same shield, damage is resolved normally. If the drones cumulatively are able to destroy the shield, any excess damage will also be scored as internals.

(FD14.26) CARRIAGE: Spearfish drones can be carried by any drone-armed unit.

NOTE: Captor mines and most standard-size fighters cannot carry two-space drones. A few standard-size fighters had the capability to carry type-IVs during the Andromedan War; see *Module J*.

(FD14.3) COST

(FD14.31) BASIC COST: The cost of replacing a one-PS explosive module with a one-PS spearfish module is 1/2 point. The cost of replacing a two-PS explosive module with a two-PS spearfish module is one point. See (FD10.6) for availability.

(FD15.0) STARFISH DRONES *(Commander's Level)*

The multi-warhead drone known as "Starfish" was developed by the Klingons in Y172 primarily to counter Hydran fighters. It was quickly adopted by other empires for use against many types of fighters and other targets.

The Starfish is, basically, a multi-warhead drone similar to those in (FD8.0), but it contains anti-drones rather than dogfight drones in its warhead.

(FD15.1) CONSTRUCTION

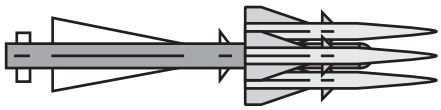
There are two Starfish modules.

(FD15.11) ONE-SPACE: The one payload space Starfish module has three anti-drones in its warhead. If placed on a two-space drone, it must be in the forward position. The cost (FD10.51) of this module is 2.5 points.

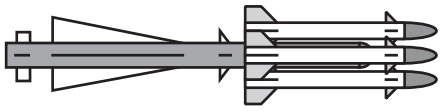
(FD15.12) TWO-SPACE: The two payload space Starfish drone has five anti-drones in its warhead. The cost (FD10.51) of this module is 3.5 points.

(FD15.13) SUBMUNITIONS: The submunitions are, literally, anti-drones, and like the submunitions on MW drones (FD8.23) could be disassembled by drone loading crews and used in launchers for anti-drones. Note that, as per (FD8.23), this will ruin the drone; it cannot be reused later.

(FD15.14) AVAILABILITY: Starfish drones are "limited" availability (the same as multi-warhead drones).



STARFISH DRONE SHOWING ADD SUBMUNITIONS



MULTI-WARHEAD DRONE SHOWING TYPE-VI SUBMUNITIONS

(Multi-Warhead drone provided for comparison)

(FD15.2) OPERATIONS

(FD15.21) TARGETING: The drone containing the Starfish module is targeted on a single valid target.
(FD15.211) At the time of launch, the Starfish is programmed to release at a specific range (1, 2, or 3) from the primary target. If the movement of the drone and its target results in a range less than that specified, it will fire. If at Range Zero from the primary target, it will engage other targets. A Starfish cannot release its submunitions on the impulse it is launched.
(FD15.212) When the drone reaches the release point, it fires the submunitions as anti-drone rounds using the table in (E5.61). This is resolved in the same step as Swordfish drone (6D2) as a direct-fire weapon with an FA arc. Targets are selected as per (FD15.214).
(FD15.213) All of the ADD-submunitions are fired simultaneously.

Each ADD-submunition must be targeted on a separate target. If there are not enough valid targets, the others will be fired ballistically into open space. (ADD rounds are straight-line ballistic rounds. Since all are fired from a point only a few centimeters apart, if they were aimed at the same target they would strike each other in flight.)
(FD15.214) Targeting priority (within the FA firing arc) is by range and then (between targets at the same range) by size class. The submunitions will accept friendly units as targets if otherwise acceptable.

(FD15.2141) Starfish submunitions will engage targets at Range 3 first, then Range 2, and then Range 1. (The submunitions cannot engage at Range Zero.)
(FD15.2142) Size class priority is set by the player at the time of launch. This includes what sizes will and will not be accepted as targets (all sizes could be, although ADDs do less damage to some), as well as what priority each size class will be. An example would be: "Priority size 6, then 7. No other sizes accepted." Note that players cannot set that targets at a given range and size have priority over those at a different range and of a different size. Only size can be specified. Two or more sizes can be given equal priority.
(FD15.2143) Within the conditions of range and size, targets are determined randomly. (The "primary target" gets no special treatment.) Roll one die for each potential target, and assign the submunitions to the targets with the highest die rolls. In the case of a tie, roll again for each target to break the tie. For example, if the die rolls for six targets were six, five, four, four, two, and two, you would roll again for the two fours to determine that one was ahead of the other, but both would be between the five and the twos. In the case of a three-submunition Starfish, there would be no need to break the tie between the twos.

(FD15.215) If the Starfish is, itself, distracted by a WW, chaff (D11.32), or attraction by a scout (G24.23), it will continue normally and, when it reaches release range from the new target, fire its submunitions as above. If its lock-on is broken by a scout (G24.22) it will go inert.

(FD15.22) ELECTRONIC WARFARE: As the submunitions are, literally, anti-drones, they are unaffected by EW (E5.15).

(FD15.23) TARGETS: A Starfish drone can be targeted on anything that a normal drone or anti-drone can be targeted on. The submunitions treat any given target as an ADD would. If a Starfish is fired inside a shuttle bay, it will do one point per ADD round (G7.814). Firing inside a shuttle bay creates a technical exception to (FD15.2141) as the range is considerably less than the normal one hex minimum.

(FD15.24) POST-FIRING: After releasing its submunitions, the drone frame is treated as the bus vehicle of a MW drone (FD8.221).

(FD15.25) CARRIAGE: In general, any unit (or rail) which can launch a multi-warhead drone can launch a Starfish.
(FD15.251) Starfish drones can only be carried by fighters on "special" drone rails (J4.233). In this way, they are like MW drones.
(FD15.252) Starfish drones can be launched by drone racks.
(FD15.253) Starfish drones cannot be placed in an SP.
(FD15.254) An MRS (which is not being used as a scatter-pack) may launch a Starfish (FD8.33).
(FD15.255) DefSats cannot use Starfish (R1.15B).
(FD15.526) Captor mines can use Starfish under the restrictions of (M4.412).

(FD16.0) STINGRAY DRONES *(Commander's Level)*

Stingray drones were developed by the Klingons in Y168 for use against fighters. The intent was to increase the range of a type-VI dogfight drone by mounting it in place of the warhead of a standard type-I drone. The result was to create the single-warhead prototype of the Kzinti multi-warhead drone. It was never widely used due to its limited tactical value. (Doubtless, had the Klingons known what the Kzintis would do with the invention, they would not have bothered.) Most starship captains found type-I drones to be more than adequate to the task of killing fighters and considerably more useful than the Stingray for other targets.

Theoretically, the Stingray drones would be fired from a distance to target fighters. The ship would close in behind the drones, the idea being that the Stingrays would release their type-VIs and drop from the guidance circuits at about the time that the ship needed to launch standard type-Is at the enemy ship. This proved too difficult to carry off successfully, and the Stingray is little more than a historical footnote on the history of the MW drone.

There are some limited tactical applications to the Stingray, even with all of its limitations. The type-VI submunition is immune to EW and WWs and can purchase a higher speed than the "bus" for less cost within the restrictions of (FD8.24). Stingrays on type-III frames can be fired ballistically without any control circuit use at all, even by ships on passive fire control. Kzintis sometimes used them against ESGs because of the enhanced effect. They can be carried on standard fighter drone rails.

Some captains found these useful modules on type-IV frames, since the result was two drones approaching the enemy rather than one (with all of the advantages of being harder to destroy and striking on different impulses), while using only one control circuit. In some cases, these "super stingray" type-IV drones were used to penetrate minefields, using a faster submunition. They also had a deception value in that a non-identified bus vehicle could be an empty type-I frame or an explosive type-IV frame.

(FD16.1) CONSTRUCTION

(FD16.11) MODULE: The Stingray module is a one payload space module containing a single type-VI drone. Historically, they were only fitted on type-I drone frames, although some experimenting was done with type-III and type-IV drone frames, and players are welcome to experiment themselves.

The cost of this module is 1.0 points.

(FD16.12) MOUNTING: If mounted on a type-IV frame, the Stingray module must be in the forward position. This configuration was known as the "Super Stingray." See tactical notes above.

(FD16.13) SUBMUNITION: The submunition is, literally, a type-VI drone, and like the submunitions on MW drones (FD8.23) could be disassembled by drone loading crews and used in launchers for dogfight drones. Note that, as per (FD8.23), this will ruin the drone; it cannot be reused later.

(FD16.14) AVAILABILITY: Stingray drones are "limited" availability in Y168-70 and "restricted" thereafter.

(FD16.2) OPERATIONS

(FD16.21) TARGETING: The Stingray drone works in all respects like an MW drone except that there is only a single submunition.
(FD16.211) When it reaches a pre-set release range from that target (from two-8 hexes, recorded in advance), the type-VI drone is released and proceeds normally as a submunition from an MW drone (FD8.22). The submunition cannot be released on the same impulse as the drone is launched.
(FD16.212) A type-III-Stingray could be launched on a ballistic course, with the type-VI submunition programmed to find its own target and release (FD5.252).

(FD16.22) ELECTRONIC WARFARE: The type-VI drone submunition is not affected by EW (FD5.13), but the drone itself (prior to release) is treated as a standard drone and NOT as a warp-seeking drone.

(FD16.23) TARGETS: The Stingray drone can accept any target that a type-VI drone can accept.

(FD16.24) POST-FIRING: After releasing its submunitions, the drone frame is treated as the bus vehicle of a MW drone (FD8.221).

(FD16.25) CARRIAGE: In general, any unit (or rail) which can launch a multi-warhead drone can launch a Stingray.
(FD16.251) Stingray drones on type-III frames can only be carried by fighters on "special" drone rails (J4.233). In this way, they are like MW drones. Those on type-I frames can be carried on any rail that can carry a type-I drone. Those on type-IV frames can be carried on heavy rails.
(FD16.252) Stingray drones can be launched by drone racks.
(FD16.253) Stingray drones cannot be placed in an SP.
(FD16.254) An MRS (which is not being used as a scatter-pack) may launch a Stingray (FD8.33).
(FD16.255) DefSats cannot use Stingray (R1.15B).
(FD16.526) Captor mines can use Stingray under the restrictions of (M4.412).

(FD17.0) STONEFISH DRONES

Stonefish drones were developed by the Klingons in Y168 for use against fighters. The concept was to mount an anti-drone in the nose of a Stingray drone, allowing the drone to engage a fighter beyond the normal range at which a fighter would expect to have time to destroy it.

Theoretically, the Stonefish drones would be launched from a distance to target fighters. The ship would close in behind the drones, the idea being that the Stonefishes would release their ADDs and drop from the guidance circuits at about the time that the ship needed to launch standard type-Is at the enemy ship. This proved too difficult to carry off successfully every time, although its first use did terrify some fighter pilots.

There are some limited tactical applications to the Stonefish, even with all of its limitations. The ADD submunition is immune to EW and WWs and ultimately cost less than high-speed Stingray drones. Stonefish on type-III frames can be launched ballistically without any control circuit use at all, even by ships on passive fire control. They were also favorite weapons for use against Kzinti ECM drones.

(FD17.1) CONSTRUCTION

(FD17.11) MODULE: The Stonefish module is a one payload space module containing a single ADD. Historically, they were only fitted on type-I drone frames, although some experimenting was done with type-III and type-IV drone frames, and players are welcome to experiment themselves.

The cost of this module is 1.0 points.

(FD17.12) MOUNTING: If mounted on a type-IV frame, the Stonefish module must be in the forward position. The two elements (Stonefish and bus vehicle) could have different targeting options. This configuration was known as the "Super Stonefish" and allowed the drone to defend itself against a counter-drone and then continue on toward the ship with an explosive warhead in the rear position.

(FD17.13) SUBMUNITION: The submunition is, literally, an anti-drone and, like the submunitions on MW drones (FD8.23), could be disassembled by drone loading crews and used in launchers able to fire ADDs. Note that, as per (FD8.23), this will ruin the drone; it cannot be reused later.

(FD17.14) AVAILABILITY: Stonefish drones are "limited" availability in Y168-169 and "restricted" thereafter.

(FD17.2) OPERATIONS

(FD17.21) TARGETING: The Stonefish drone works in all respects like an Starfish (multi-ADD) drone except that there is only a single submunition.
(FD17.211) When it reaches a pre-set release range from that target ("three hexes or less"; this is the only setting), the ADD is fired. The submunition cannot be fired on the same impulse as the drone is launched and cannot engage a target at Range Zero.
(FD17.212) A type-III-Stonefish could be launched on a ballistic course, with the ADD submunition fired at the first size-6 or size-7 target that presents itself within three hexes of the FA arc.

(FD17.22) ELECTRONIC WARFARE: The ADD submunition is not affected by EW (FD5.13), but the drone itself (prior to release) is treated as a standard drone.

(FD17.23) TARGETS: The Stonefish drone can accept any target that an anti-drone can accept.

(FD17.24) POST-FIRING: After firing its submunition, the drone frame is treated as the bus vehicle of a Starfish drone; see (FD15.24) and (FD8.221).

(FD17.25) CARRIAGE: In general, any unit (or rail) which can launch a multi-warhead drone can launch a Stonefish.
(FD17.251) Stonefish drones on type-III frames can only be carried by fighters on "special" drone rails (J4.233). In this way, they are like Starfish drones (FD15.251). Those on type-I frames can be carried on any rail that can carry a type-I drone. Those on type-IV frames can be carried on heavy rails.
(FD17.252) Stonefish drones can be launched by drone racks.
(FD17.253) Stonefish drones cannot be placed in an SP.
(FD17.254) An MRS (which is not being used as a scatter-pack) may launch a Stonefish (FD8.33).
(FD17.255) DefSats cannot use Stonefish (R1.15E).
(FD17.256) Captor mines can use Stonefish under the restrictions of (M4.412).

(FD18.0) - (FD20.0)

These rule numbers were used for drone types used in the early years as (YFD18.0), (YFD19.0), and (YFD20.0). There are no current non-Early Years drones relevant to these systems, but these rule numbers are not used in order to avoid confusion with the Early Years systems.

(FD21.0) TYPE-H DRONES

Developed in Y165 for use by ground bases (which did not have space limitations) based on lessons from the Four Powers War of Y158 to Y162, these very heavy drones (three spaces) were also deployed on special drogues that were developed late in the General War (Y178). These use the general drone rules (FD0.0) with the changes noted below:

(FD21.1) AVAILABILITY

Type-H drones are general availability weapons unless given special warheads with a more restrictive availability level (FD10.6).

(FD21.11) DEPLOYMENT: Type-H drones can only be deployed on ground bases or on heavy weapon drogues (G34.35). This drone cannot ever appear on any fighter, bomber, PF, ship (except in drogues), or base (except in drogues) not on a planetary surface.

(FD21.12) GROUND BASES: Type-H drones can be used by bases on a planetary surface. Their use by such bases is governed by these rules.
(FD21.121) A small ground base with type-H drones can put them in one or more of its drone racks, but such a rack can ONLY have one type-H drone. It cannot mix type-H drones with smaller drone types.

There is a small ground base designed specifically to use these drones and it is governed by its own rules (R1.46C).

(FD21.122) Starbases, battle stations, base stations, or mobile logistics bases constructed on planetary surfaces could have one such drone in each magazine. A type-D drone rack could have up to three such drones (one in each magazine), a type-H drone rack could have up to four. Such large multi-magazine drone racks could have type-I or type-IV (or type-II, type-III, type-V) drones in their other magazines. Rules (FD3.41) and (FD3.81), respectively, would govern the operations of the rack's launcher.

(FD21.123) Note that under the provisions of (FD21.11) drone racks on bases not constructed on planets cannot use heavy drones at all, and under the provisions of (FD21.5) even a base constructed on a planetary surface cannot reload type-H drones during a scenario.

(FD21.2) TYPES

There are numerous sub-types of Type-H drones as shown on the chart below:

TYPE	SPEED	ENDURANCE	COST
H1	8	3	3
H2	12	2	3.5
H3	20	3	3.5
H4	32	3	4

All four types have a warhead of 36 (three warhead spaces, this assumes standard explosive modules), are destroyed by twelve damage points, and take up three spaces.

(FD21.3) CONSTRUCTION

Type-H drones can be modified as per (FD10.0) for various special purposes as provided in these rules. Anything specifically prohibited by these rules cannot be placed in a type-H drone's warhead spaces, or added to its frame.

(FD21.31) WARHEAD: Type-H drones have three warhead spaces, only one of which is the "front" space (FD10.402). Note that the fact that only one space is a "front" space still allows the drone to use any single module, either one or two space, requiring a "front" space.

(FD21.32) PROHIBITED TYPES: Type-H drones cannot be configured as ECM or probe drones.

(FD21.33) RANGE: The cost of adding extended range or ATG frame modifications to a type-H drone is the same as for any other drone (FD10.53). Type-H drones cannot be fitted out as type-III drones.

(FD21.34) LOADOUTS: For purposes of determining drone percentages, all type-H drone frames available to a given side are counted as their own separate non-carrier pool, e.g., if there are four type-H drones available, they are treated as a pool of twelve spaces of drones. This means that if a Federation force brought four heavy weapons drogues each carrying two type-H drones to a given scenario six of the 24 spaces could be special (limited and/or restricted), and all six spaces could be on a single drogue. Note that a frame modification still applies to the entire drone, thus if ATG was added to a type-H drone it would count as three spaces of restricted availability provided one of the warhead spaces was not equipped with a limited module.

(FD21.35) SPEARFISH: A type-H drone cannot combine a spearfish module with an explosive module. Such a drone could carry three spaces of spearfish modules. Such a drone would score nine points of damage to the target, of which three points would be resolved as internal damage, and the remaining six would damage the target's shields per the spearfish rules (FD14.2).

(FD21.36) ARMOR: External armor modules reduce the speed of type-H drones as they do normal drones. Due to the larger and more powerful engine mounted on a type-H drone, the degradation in speed is not as severe as for a type-IV drone frame:

Original Speed of Type-H Drone	32	20	12	8
Speed with Half Space of Armor	29	18	11	7
Speed with Full Space of Armor	26	16	9	5

(FD21.4) COMBAT

Type-H drones, due to their size, are somewhat more robust than type-I or even type-IV drones.

(FD21.41) ADDs do not automatically destroy type-H drones, but damage them as if they were shuttles (E5.31).

(FD21.42) IMPACT: As with other drones, the impact of a drone with at least a half-space of explosive warhead will destroy a type-H drone (FD1.56). Exception: type-VI drones damage type-H drones as if they were fighters (FD2.54).

(FD21.43) HEAVY WEAPONS listed in (FD1.52), or in their own rules, as penalized when fired at drones are still penalized when fired at type-H drones.

(FD21.44) MONSTER Close in Defense Systems (MCIDS) treat type-H drones as drones [(E6.1) and (E6.42)].

(FD21.45) TAC INTEL: The fact that a given drone is a type-H drone cannot be detected through Tactical Intelligence, but only through the procedures listed in (F1.4).

(FD21.5) RELOADING

Type-H drones cannot be reloaded by any means on any unit during a scenario. They can only be reloaded between scenarios of a campaign. Not even the Kzinti weightlifting team (J4.8962) can reload this drone during a scenario as its size and weight exceeds what mere flesh and blood (or fur and blood, or even fur and scales) can handle.

(FD21.6) CAPTOR MINE

The Kzintis developed a variant of the large type-A captor mine that held two type-H drones, it was copied by the Federation, Klingons, and Orions. It was only used around planets or bases and always had a command link. This mine costs twelve BPV PLUS the cost of any speed or other upgrades of the two type-H drones. This mine can never be purchased as part of a mine package (M6.32), but up to two can be purchased for each package purchased. The cost reductions in (M6.33) are applied to these mines, e.g., for a circular minefield around a base, the base cost for this captor mine is six BPV plus the cost of any upgrades.

DESIGNER's NOTES: This drone is the type-H because we had already used the type-VII, type-VIII, and type-IX drone designations. It would have made no sense to make it the type-X when they did not know the other types would exist. Sorry, but that is the way it goes, better to have the type-H extremely heavy drone than a type-X drone with blank spots for thirteen years where the advanced technology drones would eventually appear.

END OF SECTION (FD0.0)

(FP0.0) PLASMA TORPEDOES

(FP1.0) GENERAL RULES

A plasma torpedo is a ball of matter on the brink of being converted totally to energy. The weapon is extremely powerful. It is used by the Romulans and Gorns as well as by the Orion pirates and (in *Module C2)* by the Interstellar Concordium. There are several different types of this weapon, each with different warhead strengths and energy costs.

(FP1.1) LAUNCHERS

(FP1.11) SSD: Each "PLAS" box on the SSD represents one plasma torpedo tube and can arm and fire one plasma torpedo at a time. Exception: (FP7.0).

(FP1.12) TYPE: The specific type (FP2.0) of launcher in each case is shown on the SSD. From largest to smallest, these are the Plas-R, Plas-S, Plas-G, Plas-F, and (in *Advanced Missions)* the Plas-D.

(FP1.13) DOWNLOADING: Any given plasma torpedo launcher may be used to load a less powerful, but not a more powerful, torpedo than that for which it is rated. Thus, a plasma-S launcher could load and fire a plasma-G but never a plasma-R. This is known as "downloading" or simply "downloading." A non-X tech plasma-R can be downloaded as a plasma-S prior to the Y170 invention of the plasma-S, but cannot be launched as a plasma-M or Plasma-L.
(FP1.131) Downloading is done as the torpedo is arming. It is not possible to reduce the status of a torpedo that is already armed and held. For example, a ship that has paid two units of power on each of the previous two turns for its S-torp launcher can complete the torpedo as a type-S or type-G, but not as an F as that requires one point per turn on the first two turns. To some extent, the two-turn-F (FP1.93) is an exception to this rule.
(FP1.132) A plasma-torpedo launcher that can be loaded at a given weapon status can be downloaded at that status. Launchers larger than type-F can have a type-F downloaded at the start of the scenario if the weapon status allows the launcher to have a standard torpedo loaded, but cannot have a downloaded type-F at WS-0 (whereas an actual type-F launcher could be holding a torpedo at that status).
(FP1.133) Type-F and larger launchers cannot download a type-D torpedo.

(FP1.14) DISCHARGE: If the energy to hold a completed plasma torpedo is not paid, the torpedo will be ejected by the crew at the end of the Energy Allocation Phase. This ejection can be detected and must be announced, along with the energy ejected. It cannot be simulated by a PPT (FP6.0).

A torpedo must also be ejected if it cannot legally be held (plasma-R on some ships, shotgun, enveloping).

However, if a weapon is discharged during the energy allocation phase by not paying the required holding energy or the required additional charging energy, or because the weapon could not be held (plasma-R, shotgun, enveloping, two turn plasma-F) the weapon cannot begin arming in that same energy allocation phase. It could, however, begin arming as early as Impulse #1 (or as late as Impulse #32 or any impulse in-between) with reserve power. This is not as obscure as it might seem since a plasma ship might have allocated for a plasma-F torpedo in a larger tube, and realize that it does not need (or want) the plasma-F during energy allocation of the following turn. However, if the weapon was not discharged at the end of the previous turn, it cannot be charged during the energy allocation of the current turn.

A torpedo must be ejected if the launcher was destroyed (FP1.7) and the torpedo has no target when the post-destruction period has expired. If the ship is tumbling, the torpedo cannot be targeted and will be discharged (not launched). See (C6.558), see also (C6.5473).

It would also be possible to launch a torpedo on a ballistic course (within the Sequence of Play) rather than eject it. At least then it would be of some deception value. This is actually the preferable means of discarding a torpedo that cannot be held.

(FP1.15) SELF-DAMAGE: You cannot voluntarily "destroy" a plasma torpedo tube on your own ship in order to claim the use of (FP1.72) to "hold" the torpedo until sometime in the subsequent turn.

(FP1.2) ARMING

(FP1.21) PROCEDURE: Each plasma torpedo requires three turns to arm. Energy must be allocated to the specific launch tube on each of three consecutive turns. The different types of torpedoes cost different amounts of energy to arm. These costs are shown in the rules for each torpedo (FP2.0). The arming energy can come from any source.

Exception: Accelerated arming (FP1.93).

(FP1.22) ENERGY: The energy to arm the torpedo must be applied over a three-turn period in EXACTLY the increments shown in (FP2.51). No more energy can be allocated; if any less energy than required is allocated, the weapon is lost and must begin arming all over again. A plasma torpedo launcher can begin arming in mid turn through the application of reserve power (H7.2), but not on the same turn in which that a plasma torpedo was launched by that launcher.
(FP1.221) ROLLING DELAY: A ship may, in effect, delay the firing of a type-R, S, G, or F plasma torpedo by only allocating two units of energy (one point for a plasma-F) on the third turn of arming. If done, the first turn's energy is lost [at the end of the turn; see (FP1.91)], and the second and third turns (two energy points each) become the first two turns of the three-turn arming cycle (unless the torpedo is completed with reserve power as in FP1.222). Mark an "R" on the EAF to avoid confusion.
(FP1.222) If the launcher is in its third (or later) turn of arming without paying the full cost (using the rolling delay system), the arming can be completed (paying the difference between the normal third-turn energy cost and the rolling delay energy paid) at any time during the turn with reserve power. The torpedo must then be fired before the end of that turn. See (FP1.91).
(FP1.223) A torpedo held by rolling delay can be completed as an EPT or shotgun during the Energy Allocation Phase (not by reserve power), but such arming is irrevocable and the torpedo must be fired on that turn.

(FP1.23) PRIOR ARMING: Plasma torpedoes are expensive (in power) to arm and hold. A ship would not normally travel for months with loaded torpedoes just in case trouble showed up. Ships do not normally begin scenarios with plasma torpedoes armed, but might have armed them if combat were known to be imminent; see (S4.0) Weapon Status.

EXCEPTION: Plasma-F torpedoes, held in stasis boxes, can be held almost indefinitely and are always ready at the start of a scenario, except when the ship is "surprised" (D18.12). Plasma-D torpedoes, while in stasis canisters, must be energized (FP9.2) before they can be fired, and this is not normally done unless specified by (S4.0).

(FP1.24) HOLDING: If not fired on the third turn, the torpedo can be held for the appropriate energy cost (FP2.5). If the holding energy is not paid, the torpedo is ejected. There is no eight-impulse holding period as per (FP1.71). Mark an "H" on the EAF to avoid confusion.

(FP1.3) LAUNCHING

(FP1.31) PROCEDURE: A plasma torpedo may be launched during the Impulse Activity Segment of any impulse during the turn in which arming is completed.
(FP1.311) If a completely-armed torpedo is not launched during the final turn of arming, it may be held over and launched during the next subsequent turn (exception: type-R torpedoes armed by ships cannot be held, those on starbases can be) by paying a specified energy cost to hold the torpedo (exception: type-F torpedoes in type-F launchers cost nothing to hold). It can be held indefinitely by paying the holding cost during Energy Allocation of each subsequent turn.
(FP1.312) The torpedo must be launched in accordance with the tracking arcs (FP3.0) available for that tube. When the torpedo is placed on the board, it must be facing in a direction available to that launch tube and must have the target in its (the torpedo's) FA arc.

The target of a plasma torpedo must be announced when it is placed on the board, unless using (F3.6).
(FP1.313) Plasma torpedoes can be targeted on anything except another plasma torpedo. The "friendly fire" rules (D1.5) will create some exceptions to this rule.

(FP1.32) WARHEAD: When a plasma torpedo is placed on the board, the owning player must state the warhead strength if there is an enemy unit within 35 hexes (FP1.323).
(FP1.321) This information will be of tactical benefit to the enemy. EPTs (FP5.0) will of course be recognized immediately by their higher strength. Type-F and type-G torpedoes will appear identical when first launched.
(FP1.322) If the launched torpedo is a PPT (FP6.0), the owner must state the warhead strength of the type it is simulating (although not that it is a simulation).
(FP1.323) The warhead strength is known continuously as the torpedo travels across the board, so long as one enemy unit is within 35 hexes of the torpedo. [Level B if using the Optional Tactical Intelligence rules, (D17.4), in which case the range would vary.] Active fire control is not required, and a cloaked ship can observe the size of the warhead. The owning player is not required to announce any change in warhead strength of a given torpedo, but must answer correctly if asked at any point.

(FP1.33) SAME HEX: Plasma torpedoes can be launched in the same hex as their targets; see (F2.32) for the same-hex procedure and (FP1.86) for feedback damage to the launching ship.

(FP1.4) MOVEMENT

(FP1.41) SEEKING WEAPONS: Plasma torpedoes are seeking weapons and move by (F2.0).

(FP1.42) ENDURANCE: Plasma torpedoes have a maximum endurance of 32 impulses, but, as their warhead strength steadily decreases, they will reach zero strength before moving all 32 hexes. If a unit that is a target of a plasma torpedo enters the hex of that torpedo as part of its movement, the torpedo strikes the target and is not regarded as having moved that impulse for purposes of warhead reduction.

(FP1.43) SPEED: All plasma torpedoes move at a speed of 32.

(FP1.5) WARHEAD STRENGTH

(FP1.51) STRENGTH CALCULATION: The warhead strength of a plasma torpedo is determined at the instant of impact, based on two factors: the distance that the torpedo has traveled (it grows weaker the farther it travels) and damage done to it (FP1.6) by phasers and (possibly) other effects. This may be further adjusted by the effects of electronic warfare (D6.36). The warhead strength vs range (for each type) is shown on the Plasma Torpedo Table (FP1.53). The warhead strength decreases with range, as is shown on the plasma torpedo tables. Once the warhead strength reaches zero, the torpedo has no further effect or function and the counter is removed from the board. Terrain-induced movement (black hole, nebula) does not count as movement for purposes of lowering the warhead strength.

(FP1.52) SEQUENCE: The damage is applied during the Seeking Weapon Impact Step (or the Enveloping Plasma Torpedo Impact Step); see the Sequence of Play in Annex #2.

(FP1.53) PLASMA TORPEDO TABLE: See bottom of page.

(FP1.6) FIRING AT PLASMA TORPEDOES

(FP1.61) DAMAGING PLASMA TORPEDOES: Plasma torpedoes may be fired at only by phasers (of any type). ONLY phasers or impact with a large object (such as a planet or asteroid), and some other terrain types listed below, will damage a plasma torpedo.
(FP1.611) Every two points of damage by phaser fire reduces the warhead strength by one. Note that this reduction is below the normal strength shown on the Plasma Torpedo Table.
(FP1.612) Record damage points made on a plasma torpedo during its movement, and adjust the strength of the weapon accordingly on impact or when asked for current warhead strength.
(FP1.613) Damage from planetary rings (P2.223), asteroids (P3.24), pulsars (P5.33), nebulae (P6.73), and dust clouds (P13.3) counts as phaser damage.
(FP1.614) MCIDS can damage plasma; see (E6.5).
(FP1.615) Fractions of damage by phasers or other things (such as asteroids) that score phaser-like damage are combined. If there is any fraction of warhead strength remaining, it is rounded to a whole damage point under (A3.5). Thus three points of phaser damage will reduce the warhead by one point. A point of phaser damage and a point of asteroid damage will reduce the warhead by one point. Three points of phaser damage and two points of asteroid damage would reduce the warhead by two points. Damage to a plasma torpedo is normally calculated at the point of impact, however if sufficient damage has been scored such that warhead is reduced to zero at any point in its movement, it is removed from the board at that point. For example, a plasma-F torpedo that has moved twelve times has ten points of damage (five points of warhead reduction) on it. It will not score any damage on the following impulse and is removed from the board. If the torpedo had only nine points of damage, it could move two more hexes and would score one point of damage if it impacted its target in either of those moves.

(FP1.62) OTHER WEAPONS: No other weapon, including another plasma torpedo, will damage a plasma torpedo. No other effect (for example: self-destruction blast, mines, expanding spheres) will damage a plasma torpedo unless specifically stated to do so.

A displacement device, while it won't damage a plasma torpedo, can relocate it (G18.71).

A plasma torpedo cannot accept another plasma torpedo as a target (FP1.313).

(FP1.63) OTHER TERRAIN: Each hex of atmosphere (P2.85) or gravity wave (P9.312) traversed by a plasma torpedo reduces the strength.

(FP1.7) SPECIAL COMBAT RULES

(FP1.71) FIRING AFTER DAMAGE: If a plasma torpedo has been armed, and the torpedo launch tube is destroyed while holding a fully-armed torpedo, the torpedo may be launched within eight impulses; otherwise it is destroyed. The torpedo cannot be held, or upgraded

PLASMA TORPEDO TABLE

TYPE	RANGE 0-5	6-10	11-12	13-14	15	16-18	19	20	21-23	24	25	26-28	29	30
R	50	50	35	35	35	25	25	25	20	20	20	10	5	1
S	30	30	22	22	22	15	15	15	10	5	1	0	0	0
G	20	20	15	15	15	10	5	1	0	0	0	0	0	0
F	20	15	10	5	1	0	0	0	0	0	0	0	0	0
D	10	8	5	2	1	0	0	0	0	0	0	0	0	0
BOLT	1-4	1-3	1-2						1					

with reserve power. Destruction of the plasma torpedo systems box on the SSD destroys the ability of the ship to produce new weapons, but not its ability to fire the one it has already created. This does not apply to fighters with plasma-torpedoes and is superseded by (J1.332).

If the ship has broken down, see (C6.5473).

(FP1.72) SUBSEQUENT TURN: If the eight-impulse time period (in which the torpedo can be fired from the destroyed tube) extends into the next turn, it can be fired then and no holding energy need be paid.

(FP1.73) PPT: The PPT of a destroyed tube can also be fired during this interval.

(FP1.74) CLOAKED SHIP: If a launch tube on a cloaked ship is destroyed, the ship will have to uncloak to fire the torpedo at a target. If still cloaked, the torpedo will be ejected. In this case the torpedo could not be launched ballistically (FP1.14).

(FP1.8) OTHER SPECIAL CASES

(FP1.81) DISTRACTION: Plasma torpedoes may be distracted by "wild weasel" shuttlecraft (J3.0) or by wild SWACS (J9.2). Plasma torpedoes may accept planets as their target under some conditions; see (P2.33).

Type-D torpedoes (and only that type) can be distracted by chaff; see (FP9.18).

(FP1.82) TERRAIN: Plasma torpedoes are affected by some types of terrain. See (FP1.613) and (FP1.63). Also, black holes (P4.22) and some other terrain types generate EW points which could affect the probability of a hit.

(FP1.83) STASIS: Plasma torpedoes may be placed in a stasis field (G16.62).

(FP1.84) MINES: Mines (other than phaser-captors) will not damage a plasma torpedo. Mines (except phaser-captors) will not accept plasma torpedoes as targets; see (M4.415) and (M2.48).

(FP1.85) OVERLOAD: Plasma torpedoes cannot be overloaded.

(FP1.86) FEEDBACK: If the torpedo is launched in the same hex as its target and hits (impacts) its target before the target or launching ship moves to another hex, the firing ship receives "feedback" damage on the shield facing the target equal to 25% of the warhead's strength. This does not reduce the warhead's strength. If such a plasma torpedo were to strike a wild weasel, the ship would suffer both the feedback damage its facing shield, and collateral damage on a random shield (J3.303). As with similar rules for photon torpedoes and disruptors, this does not affect any other unit in that hex. If the effect of the torpedo is reduced by electronic warfare, the feedback damage is reduced by an equal percentage. Feedback may also be reduced by a target's Cloak (G13.37).

(FP1.87) TRACTORS: Plasma torpedoes cannot be held in a tractor beam (G7.26).

(FP1.9) ARMING WITH RESERVE POWER

Reserve power may be applied to a plasma torpedo held in the launch tube to complete its arming. The following restrictions apply.

(FP1.91) ROLLING DELAY: Reserve power can be used to supply the additional energy required to complete the arming of a torpedo held by rolling delay (FP1.221). If two points had been allocated on Turn #1 and two points on Turn #2, and then only two points were allocated on Turn #3, the energy from Turn #1 is not lost; the torpedo can be completed with reserve power during a later portion of the turn. The Turn #1 energy will be lost if the torpedo is not completed by the end of Turn #3. Note that plasma-F launchers can use rolling delay (FP1.221), but cannot use (FP1.93) below.

EXAMPLE: A ship with a type-S launcher could pay two points of energy on Turn #1, two points on Turn #2, and two points on Turn #3. During any impulse of Turn #3, it could pay one point from reserve power to complete the arming of a type-G torpedo or two points to complete the arming of a type-S. If this is not done, the torpedo is still "arming" and Turn #4 becomes the third turn of the arming cycle.

(FP1.92) EPT & SHOTGUN: Reserve power cannot be allocated to complete the arming of an enveloping plasma torpedo (FP5.0) or of a plasma shotgun (FP7.0).

(FP1.93) ACCELERATED ARMING: Reserve power (not allocated power) can be used during the launch/fire step for accelerated arming of type-G, type-S, or type-R torpedoes. During the second turn of arming, these weapons (with two energy points allocated on the first turn and two on the second turn), two points of reserve power can be applied to produce a type-F plasma torpedo. This torpedo must be launched/bolted immediately upon the application of the reserve power. Type-F launchers cannot be armed by this method.

(FP1.94) LOST TORPEDOES: If energy is not allocated at the start of a turn to continue the arming of a plasma torpedo or to hold that torpedo, the torpedo is lost immediately. Application of reserve power later during the turn cannot restore the torpedo. See (FP1.14).

EXAMPLE: Type-S torpedo launcher A receives two points of power on Turn #1 and two points on Turn #2. It receives no allocated points, however, on Turn #3. The uncompleted torpedo is lost immediately and cannot be recovered by allocating reserve power.

(FP1.95) SUBSEQUENT TURN: A player cannot allocate reserve power to a launcher to substitute for the holding or arming energy required for the subsequent turn. A player could not allocate reserve power on Turn #2 as a substitute for the allocated power required on Turn #3.

(FP1.96) RESERVE POWER can be used, on the last turn of arming (FP1.9), to increase the power of a plasma torpedo. This can never be in excess of the capability of the launcher. For example, a plasma-S launcher receives two points of power on Turn #4, two points on Turn #5, and three points on Turn #6. This would normally make the torpedo held by the launcher a plasma-G. However, during a later part of Turn #6, the owning player could add reserve power and increase the torpedo to a plasma-S. He could not increase it to a plasma-R because the launcher cannot handle that weapon. A torpedo increased with reserve power during the original arming cycle can be held. See (H7.53).

(FP1.961) This could be used to increase a previously held torpedo, but the resulting torpedo cannot be held past the end of that turn.

(FP1.962) This procedure cannot be used to increase a plasma-F torpedo, to create a plasma shotgun (FP7.0), or to create an enveloping (FP5.0) version of a plasma torpedo.

(FP1.963) Reserve power can be added to a point allocated to begin loading a type-F torpedo in a larger launcher at any time during the first turn of arming. This irrevocably commits the torpedo to be finished either as a two-turn F or as a larger three-turn torpedo within the capability of the launcher, e.g., G, S, or R in a type-R launcher.

(FP1.964) If you upgrade a held torpedo to a larger torpedo with reserve power, you do not have to pay the cost to hold the larger torpedo as part of the upgrade during the turn the reserve power is applied.

(FP2.0) TYPES OF PLASMA TORPEDOES

There are four types of plasma torpedoes in *Basic Set*, each of which is described in this section. Other types are in other products.

(FP2.1) TYPE-R PLASMA TORPEDO

(FP2.11) GENERAL: This is the most powerful type of plasma torpedo, causing up to 50 points of damage out to ten hexes, and with a maximum range of 30 hexes.

(FP2.12) NON-HOLDABLE: In the case of ships carrying plasma-R, the weapon cannot be held if it is not fired before the end of the third turn of arming. A starbase (but not a smaller base) armed with a plasma-R could hold it when fully charged.

(FP2.13) SHIP SIZE: No unit smaller than size-3 can mount a plasma-R, and relatively few units smaller than size-2 carry it. Those that do (e.g., War Eagle) generally carry few other weapons because of the bulk needed for the plasma-R.

(FP2.2) TYPE-S PLASMA TORPEDO

(FP2.21) GENERAL: This type, known as "S," is an improvement of the plasma-G. Historically, it was available in Y170. In some earlier editions of *Star Fleet Battles*, this was called the "G-II" torpedo.

(FP2.22) REFITS: Many ships with plasma-G were refitted with plasma-S. All ships with such refits are described as such in their rule. No ship has type-S plasma torpedoes prior to Y170 unless a specific exception to this rule is noted in its description.

(FP2.23) SHIP SIZE: No unit smaller than size class-3 can be armed with a plasma-S.

(FP2.3) TYPE-G PLASMA TORPEDO

(FP2.31) GENERAL: This was the original Gorn type and is carried by most of their ships. The Romulan KR-class cruiser (a converted D6) carries this type.

(FP2.32) REFITS: Most ships with type-G torpedoes had their weapons upgraded to type-S during the General War. See the refit information for each ship.

(FP2.4) TYPE-F PLASMA TORPEDO

(FP2.41) GENERAL: Being the smallest ship-mounted plasma torpedo, the plasma-F has been adapted to a stasis (time-freeze) box firing system. For this reason, the plasma-F costs nothing to hold once fully charged (unless it has been armed in a larger launcher, in which case it costs one point to hold). The plasma-F is (in *Basic Set)* only used by the Romulan K5R, the Orion pirate CR in its optional weapons mount, and certain bases. In other products, the plasma-F is widely used on ships, fighters, gunboats, etc.

(FP2.42) FIGHTERS: Fighters carrying plasma-F torpedoes are unable to arm these weapons themselves. See (J4.86) for reload instructions.

(FP2.43) FAST PATROL SHIPS: PFs armed with type-F plasmas can recharge them.

(FP2.5) PLASMA TORPEDO DATA TABLES

(FP2.51) ARMING COST: The cost of arming a plasma torpedo is as follows:

Type	Turn #1	Turn #2	Turn #3	EPT/SG	Hold Cost
R	2	2	5	10	4
S	2	2	4	8	2
G	2	2	3	6	1
F	1	1	3	NA	0*

* One point if downloaded from a larger launcher.

(FP2.52) WARHEAD STRENGTH: This is shown on the Plasma Torpedo Table (FP1.53). As can be seen, a type-R plasma torpedo that has traveled thirteen hexes has a strength of 35 damage points.

(FP2.6) OTHER TYPES OF PLASMA TORPEDOES

Beyond the four ship-mounted types most commonly used in the game, there are several additional types found in advanced products:

Plas-D: Carried by some fighters; see (FP9.0). The type-D is an encapsulated torpedo carried in a canister the size of a drone. It is also carried by some ships on a special plasma rack (FP10.0).

Plas-M: An intermediate size between the S and R carried only by certain X-ships.

Plas-L: An upgraded type-F which has the warhead size of a type-G but the launcher size of a type-F and which cannot be upgraded to a type-S.

NOTE: Types L and M are seldom mentioned in the FP section because they are used only by X-ships; see (F1.3).

(FP3.0) FIRING ARCS AND LAUNCHERS

During the Impulse Activity Phase in which a plasma torpedo is launched, the counter for the plasma torpedo is placed on top of the firing ship. The direction that the counter is faced depends on the launcher. There are two types: fixed and swivel.

(FP3.1) FIXED LAUNCHERS

(FP3.11) STANDARD FIXED LAUNCHERS: This type of launcher is built into the ship. It can fire in one specified direction (usually directly forward) relative to the launching ship (or fighter). The target must be in a 120° arc bisected by (60° to either side of) the direction of the launcher. If the launcher is facing directly ahead, the target must be in the FA firing arc.

If no target is within the valid arc, the torpedo cannot be targeted and must be held or ejected. The counter must be faced in the same direction as the launcher. The firing arc designated for that launcher (e.g., the War Eagle has a Plas-R-FA) is the arc that the target must be in.

(FP3.12) GORN LAUNCHERS: Early Gorn CA and CL ships had their torpedo tubes aimed to the side at 60° angles, so that one could track targets in the RF+R arc (launch in direction six relative to the ship) and the other in the LF+L arc (launch in direction two). See (D2.2) for arc descriptions.

(FP3.2) SWIVEL MOUNTS

(FP3.21) GENERAL: Some ships have "swivel" tubes allowing their torpedoes to be aimed at targets within a larger arc. Using this system, the torpedo could be fired in any of three directions at a target within a 180° arc. See (D2.34) and (D2.36) for a layout of these firing patterns.

(FP4.0) PLASMA TORPEDO GUIDANCE

Plasma torpedoes are self-guiding. Once launched, they do not require the assistance of any ship to find their targets.

See (P2.33) if there is a planet in the scenario.

(FP4.1) LOCK-ON AT TIME OF LAUNCH

The firing unit must have a lock-on to the target at the time the weapon is launched. If the firing unit does not have a lock-on to the target, the weapon cannot be fired. Exception; see (D19.22).

(FP4.2) SELF-GUIDING ABILITY

Once launched, the plasma torpedo provides its own guidance. It is not necessary for the firing ship (or another ship) to maintain a lock-on while the torpedo is following its target. See also (F3.42).

(FP4.21) CONTROL: The ship can retain (and/or transfer) control of a plasma torpedo in order to provide increased ECCM. If control is released by the ship (or broken), the torpedo then assumes its own guidance. See (F3.3), (F3.4), and (F3.5).

(FP4.22) CEASE TRACKING: There is no means by which a player can force his torpedo to cease tracking the target. When control is released, the torpedo automatically assumes its own guidance; control cannot thereafter be re-established. See (F3.42).

(FP4.23) CONDITIONS: Plasma torpedoes have superior guidance systems to ATG drones. They can maintain their own lock-on within 35 hexes and can track targets in any arc.

Note, however, that plasma torpedoes are still distracted or otherwise affected by wild weasels, EW, cloaks, etc. Plasma torpedoes are not affected by some scout functions that affect drones; see (G24.225) and (G24.233). Plasma torpedoes (except type-D) are not affected by chaff (D11.6). Ballistically launched (F4.0) plasma torpedoes cannot acquire their own targets, but might be launched at ground targets (P2.713). Plasma torpedoes cannot use tame boar targeting (FD5.252) as type-III drones can.

(FP4.24) SENSOR RATING: Plasma torpedoes have an assumed sensor rating of six. This is not reduced by damage.

(FP4.3) BUILT-IN ECCM

(FP4.31) TORPEDO: All plasma torpedoes are assumed to have three points of ECCM; see (D6.393).

(FP4.32) LAUNCHER SUPPORT: If the launching unit (or another friendly unit to whom control of the weapon has been passed) maintains a lock-on while the weapon is following its target, the ECCM power of the controlling unit is added to that of the torpedo (F3.331) when determining if the target's ECM has diverted the torpedo. If no unit maintains external control, no ECCM power can be added.

(FP4.4) EFFECT OF EW

Electronic warfare cannot stop a plasma torpedo from being fired, but can reduce its effect when it reaches the target; see (D6.36).

(FP4.5) CLOAKS

(FP4.51) SELF-GUIDING: A plasma torpedo that is not controlled by another unit will roll for its own attempt to retain lock-on under (G13.334).

(FP4.52) LAUNCHER GUIDED: If the plasma torpedo is controlled by an outside unit, the unit rolls to retain a lock-on. If this fails, the torpedo is released from control and can immediately roll for its own attempt to retain lock-on.

ATG drones use a similar procedure; see (FD5.24).

(FP5.0) ENVELOPING PLASMA TORPEDOES *(Advanced)*

The Romulans developed this weapon in Y162. This technology is available to any empire possessing the weapons themselves.

(FP5.1) BASIC RULE

The enveloping plasma torpedo (EPT) can be fired by plasma-armed ships instead of their regular plasma torpedoes and from the same launcher.

(FP5.11) TYPES: Type-G, type-S, and type-R plasma torpedo launchers can launch EPTs. Type-D and type-F plasma torpedo launchers cannot arm or launch EPTs.

(FP5.12) SPECIFICATION: A ship loading a plasma torpedo must specify (on the Energy Allocation Form) on the final turn of arming whether it will be fired as a normal or enveloping type; see (FP5.23).

(FP5.2) ARMING

The weapon is armed, fired, and operated in the same manner as a standard plasma torpedo, except that it requires twice the normal amount of energy on the final turn of arming, which MUST be the turn of launch.

(FP5.21) STRENGTH: The warhead strength of an EPT is double that shown on the appropriate chart for the normal torpedo.

(FP5.22) HOLDING: An EPT cannot be held (FP1.24). A torpedo armed in a prior turn and held cannot be converted to an EPT. A torpedo held by rolling delay (FP1.223) can be completed as an EPT. See also (FP1.92).

(FP5.23) DECISION: The decision to fire a given torpedo as an EPT is made during the Energy Allocation Phase of the turn of firing. This is the only time the energy can be provided; reserve power cannot be used (FP1.92).

The player marks "EPT" on his Energy Allocation Form to note this type of loading. [The fact that double arming energy was paid is not enough; it could also be marked "SG" for shotgun; see (FP7.32).]

(FP5.24) EFFECTS OF SIZE: The large size has several effects.
(FP5.241) Because the warhead strength is higher, it will take more phaser damage (FP1.6) to destroy an EPT than a standard torpedo.
(FP5.242) The torpedo will be immediately recognized as an EPT due to the higher warhead size; see (FP1.32).
(FP5.243) The torpedo can be bolted, but the extra energy provided for EPT arming (over and above standard) is lost; see (FP8.22).

(FP5.3) IMPACT PROCEDURE

Upon reaching its target, the EPT "envelopes" it and implodes, causing damage to all six shields equally. For ground bases, see (P2.7331).

(FP5.31) BASIC PROCEDURE: Subtract General Reinforcement (shield points, not energy points) (FP5.35) from the warhead strength and divide the remainder by six. [Divide by two in the case of Interceptors; (K3.4.) or Andromedans.] Round fractions down. This is the number of damage points that are immediately applied to all shields. [The specific reinforcement on each shield will of course be used first; see (D3.342).] The remaining points (from rounding) are then scored on shields of the (target) owner's choice, but no more than one point per shield.

EXAMPLE: A 22 point EPT would be divided by six (the number of shield facings, it would be divided by two if the target were an Andromedan, for example). Fractions are rounded down (but not lost), so each shield facing takes three points of damage, accounting for eighteen damage points of the 22-point warhead. At that point, the defending player allocates the four remaining points. No more than one point per shield facing, to any four shields of his choice, he can allocate the damage to a down shield (a point of it), or to multiple down shields (within the limits of the number of down shields and the number of points). Or he could allocate the points to shields which still have some boxes, or to some of both. It is possible that he will be forced to allocate a point to a down shield simply because there are more points than he has shields that are not down.

(FP5.32) SEQUENCE: EPTs strike with other seeking weapons but are treated as a separate "volley." Penetrating hits from any or all of the six shields are resolved internally as a single volley due to the near simultaneity of the implosion. All EPTs which strike during a given impulse are resolved as a single volley.

Treat any phaser which can fire through a down shield through which one or more damage points were scored as vulnerable to destruction under (D4.321).

(FP5.33) ANDROMEDANS: See (D10.14) in *Module C2* for the procedure. Generally, the power is divided equally between the PA panel groups. Players without *Module C2* can ignore all references to the Andromedans. Should you later acquire *Module C2*, all of the necessary references and exceptions dealing with them will already be in your rulebook waiting for them.

(FP5.34) NO SHIELDS: If the target has no shields, simply resolve the warhead strength (not divided by six) as a single volley without the phaser restriction (D4.321). Note that if the target has general shield reinforcement (D3.341) up, the strength of this must be subtracted from the EPT's warhead before calculating internal damage.

(FP5.35) GENERAL REINFORCEMENT: Any general reinforcement (D3.341) allocated (the points produced by the power allocated, not the power itself) by the target ship is subtracted from the weapon's warhead strength before it is divided.

(FP5.36) MONSTERS: Living monsters and size-class 0 monsters cannot be enveloped. EPTs are treated as standard torpedoes against these units. Any exceptions will be specifically noted in the appropriate rules.

(FP6.0) PSEUDO-PLASMA TORPEDOES *(Advanced)*

Due to the slow firing rate of plasma torpedoes, the pseudo-plasma torpedo (PPT) was developed by the Romulans to improve the flexibility of the weapon. (Other plasma-using empires copied it almost immediately.) This device simulates a plasma torpedo, making it more difficult to time attacks on a plasma-armed ship to the rearming cycle. All plasma torpedo launchers have PPTs except as noted in the rules. PPTs (and wild weasels) have existed for very nearly as long as plasma torpedoes.

(FP6.1) DEFINITION

(FP6.11) GENERAL: The pseudo-plasma torpedo is a "fake" plasma torpedo. All F, G, S, and R torpedo launchers have one PPT in a special launch tube near the plasma launcher. PPTs are always available, unless the ship was "surprised" (D18.12) or used the PPT in an earlier battle in a campaign which defines that there was not sufficient time to reload expended PPTs.

There are no type-D PPTs; see (FP9.13).

(FP6.12) LAUNCH: The PPT can be launched for no energy cost at any point in the Sequence of Play and under any conditions at which a real torpedo could be fired, assuming that the conjectural real torpedo was armed.

(FP6.13) CONDITIONS: It is not necessary to have a real torpedo armed in the tube to fire the pseudo torpedo. A ship that had been so heavily damaged that it could not arm a torpedo could still fire a pseudo plasma torpedo, assuming that it had such a torpedo available and that other conditions for torpedo launch were met.

(FP6.14) FIGHTERS armed with plasma torpedoes never have PPTs.

(FP6.15) PFs: Most PFs armed with plasma torpedoes have fewer PPTs than they do torpedo launchers. The ship description for each PF class defines these.

(FP6.2) FIRING RATE

(FP6.21) FIRING LIMIT: Only one PPT may be fired per launcher during a given scenario.

(FP6.22) SIMULTANEOUS: A PPT may not be fired during the same impulse as a real torpedo from the same launcher.

(FP6.23) TYPE: The PPT can only simulate the largest non-EPT torpedo the launcher is capable of launching.

(FP6.24) SPECIAL COMBAT RULE: The PPT can be fired after the launcher is destroyed (FP1.7) under the same conditions as a real torpedo.

(FP6.3) OPERATIONS

The PPT moves on the board, follows its target, absorbs phaser damage, etc., and operates in all ways as a plasma torpedo, except that upon reaching its target it does not explode but simply disintegrates (doing no damage to the target or anything else). The obvious function of a PPT is to make engaging a plasma-armed ship more challenging since it introduces some uncertainty as to just what has been launched and how soon another torpedo could be ready.

(FP6.31) IMPACT: The impact of a PPT on its target [which may not be the original target; see (FP1.81)] reveals that it is not a real torpedo (i.e., the damage points from the warhead strength are not scored). Even if one or more PPTs and one or more real plasma torpedoes hit the same target at the same time, the owner must reveal which was a PPT and which was a real torpedo.

(FP6.32) WEB: A PPT is not exposed when it enters a web (G10.0). It acts exactly as a real torpedo would.

(FP6.33) LIMITATIONS: A PPT cannot simulate an enveloping plasma torpedo (FP5.0) or shotgun (FP7.0).

(FP6.34) DECEPTION: The PPT is a deception weapon, and any number of tactical papers have been written expounding on how to exploit this. Most players who fire phasers at a plasma torp will avoid reducing it to zero so that it will impact and the minimal damage will reveal its status. Some players will use phasers to destroy their own weak "torpedo" before it hits, to avoid letting the enemy know if it was real or a PPT. Some players will launch PPTs into open space, in an attempt to lure an enemy into range by making him think the torpedo tubes are empty.

(FP7.0) PLASMA SHOTGUN *(Advanced)*

Gorn scientists, seeking a solution to the tactical problems created by a plasma-armed ship (with its slow firing rate) engaging fighters (which the Romulans deployed in Y165), developed the "plasma shotgun" system in Y168. Other plasma-using empires duplicated the technology in Y169. The system is devastating to a fighter squadron. It is also useful in fleet actions when engaging several ships.

(FP7.1) DESIGNATION

Using this system, any torpedo larger than a type-F can fire a number of type-F torpedoes simultaneously.

BASIC TYPE	NUMBER OF TYPE-Fs PRODUCED
R	5
S	3
G	2

Essentially the ball of plasma energy in the launch tube is divided into smaller pieces to allow more targets to be engaged. The additional arming energy is used to build magnetic fields inside the arming chamber to sub-divide the torpedo into several smaller ones.

(FP7.2) OPERATION

(FP7.21) SIMULTANEOUS LAUNCH: All of the type-Fs must be fired on the same impulse and with the same facing.

(FP7.22) SEPARATE TARGETS: Each type-F must have a separate target, and those targets must all be within the tracking arc of the launcher. If there are not enough targets for all of the type-Fs, the excess are removed from play or can be given ballistic courses (F4.0) for deception purposes.

(FP7.23) TWO LAUNCHERS: A given ship cannot fire two plasma launchers in the same impulse if one of them is a shotgun type.

(FP7.24) BOLTS: A plasma launcher loaded as a shotgun can be bolted, but the separate torpedoes will fuse back into a single torpedo of the original size; see (FP8.24). The excess energy (used to build the magnetic divisions) is lost.

(FP7.3) ARMING

(FP7.31) DECISION: The decision to fire a plasma charge as a shotgun instead of a single torpedo is made during the Energy

Allocation Phase of the last turn of arming. A torpedo can be completed as a standard, enveloping, or shotgun type, but cannot be simultaneously completed as both an enveloping AND a shotgun type.

(FP7.32) ENERGY: The energy cost for the last turn of arming is double the normal cost. (Example: A type-G plasma torpedo normally costs 2-2-3 to arm; as a shotgun it would cost 2-2-6.) The player marks "SG" on his EAF to note this type of loading.

(FP7.33) HELD TORPEDO: A completed plasma torpedo held from a previous turn cannot be converted to a shotgun load. A torpedo held by rolling delay (FP1.223) can be completed as a shotgun.

(FP7.34) RESERVE POWER: A plasma torpedo being held by rolling delay cannot be completed as a shotgun type with reserve power; see (FP1.92).

(FP7.4) RESTRICTIONS

(FP7.41) HOLDING: A launcher loaded as a shotgun cannot be held.

(FP7.42) CONVERSION: A launcher loaded as a shotgun cannot be converted back to normal or into an enveloping plasma torpedo.

(FP7.43) PSEUDO-PLASMA: PPTs are pre-loaded and cannot simulate shotgun launches.

(FP7.44) TYPE-F ONLY: Division into type-F plasma torpedoes is the only means of dividing a plasma torpedo. For example, a type-R cannot be shotgunned into a type-G and a type-S.

(FP7.45) SENSOR BLINDING: The launch of a plasma shotgun will blind special sensors (G24.13), but only one sensor is blinded for each launcher which fires a shotgun (not one per component type-F).

(FP8.0) PLASMA BOLTS

Plasma torpedo launchers can be fired, within certain restrictions, as direct-fire weapons (plasma bolts), rather than as launchers for seeking weapons. This procedure is less efficient, but has certain tactical advantages. The electro-mechanical procedure for firing in this mode is to detonate the torpedo in the launch tube and release the energy in a specific direction. The plasma bolt is an inefficient weapon, but provides tactical options that make the seeking torpedoes more usable.

(FP8.1) AVAILABILITY

(FP8.11) USE: All plasma torpedo launchers except those noted in (FP8.2), during all time periods, can be used to fire plasma bolts.

(FP8.12) AVAILABILITY: Using a given launcher in either mode (seeking or bolt) does not restrict its future use (even within the same scenario) in the other mode.

(FP8.2) RESTRICTIONS

Certain types of plasma torpedoes cannot be used as plasma bolts due to the nature of their operations.

(FP8.21) PSEUDO PLASMA TORPEDOES (FP6.0) cannot be used as plasma bolts because they are not energy-based weapons, but fixed-rounds stored in advance. Besides which, as no deception is possible, there would be no benefit to doing so.

(FP8.22) ENVELOPING PLASMA TORPEDOES (FP5.0) do not have increased effects when used as plasma bolts. If a launcher, previously loaded as an enveloping plasma torpedo, is fired as a bolt, it is treated as a normal non-enveloping torpedo. The extra arming energy is lost. If the torpedo had been downloaded (e.g., a plasma-R launcher downloaded with an enveloping type-G), the extra energy for an EPT is lost and the bolt is type-G, not type-R. (Some might argue that since enough total power was applied to arm a standard torpedo of the large type, the bolt should be of that type. This is not true because the extra energy is being used for other purposes than pure strength.)

(FP8.23) FIGHTERS: The type-F and type-D plasma torpedoes carried by fighters (J4.86) cannot be fired as bolts. The small frame of the fighter could not stand the shock. Note that this rule includes plasma-armed MRS shuttles.

(FP8.24) SHOTGUN: If a torpedo, previously armed as a plasma shotgun (FP7.0), is fired as a bolt, the individual elements will simply fuse into a single torpedo of the normal (G, S, R) type, which is then bolted normally (i.e., at 50% of the strength for the given range). If the torpedo had been downloaded (e.g., a plasma-R launcher downloaded with a shotgun type-G, that is two type-Fs), the extra energy for a shotgun is lost and the bolt is type-G, not type-R. (Some might argue that, since enough total power was applied to arm a standard torpedo of the large type, the bolt should be of that type. This is not true because the extra energy is being used for other purposes than pure strength, in this case to section the arming chamber.)

(FP8.25) DESTROYED LAUNCHERS: Plasma bolts cannot be fired from destroyed launchers. Torpedoes held in destroyed launchers may (FP1.7) be launched as seeking weapons up to eight impulses later. When the launcher is destroyed, the torpedo is still held in the magnetic bottle contained within the launcher. Without the physical structure, the bottle will collapse within that time. The magnetic bottle, however, is too weak to withstand the detonation of the torpedo, so it cannot be bolted.

(FP8.26) FAST PATROL SHIPS: Plasma-armed PFs cannot fire more than one torpedo as a bolt during any given turn. This is included in the normal two torpedoes per turn firing rate, allowing a typical PF to fire one bolt and one seeking torpedo, or two seeking torpedoes, within a turn.

The limit of one bolted torpedo per PF per turn includes any type-D torpedoes except those fired in defensive mode (FP10.212) against targets of size-6 or smaller.

(FP8.3) OPERATION

(FP8.31) DIRECT-FIRE WEAPONS The plasma bolt operates as any other direct-fire weapon. It is declared and resolved in the Direct-Fire Weapons Stage 6D2, cannot be distracted as seeking weapons can (WW, scout), and cannot be intercepted or reduced by weapons fire on the torpedo/beam itself.

(FP8.32) ELECTRONIC WARFARE: The effect of electronic warfare on a plasma bolt is resolved as with any other direct-fire weapon. The net ECM shifts are added to the die roll, increasing the possibility of a miss. Plasma bolts are not seeking weapons and are not treated as such. Torpedoes fired as plasma bolts do not have the built-in ECCM of seeking torpedoes.

(FP8.33) PROCEDURE To be fired as a plasma bolt, the plasma torpedo launcher must be fully charged and ready to fire. The decision to fire a plasma torpedo in either seeking or direct mode is made at the instant of launch/firing. If the launcher is armed by reserve power, it must launch a torpedo or fire a bolt on that turn.
(FP8.331) Direct-fire weapons are fired and seeking weapons are launched at different points in the Sequence of Play. If the game has reached the Plasma Torpedo Launch Step and the player decides to fire the weapon as a plasma bolt, he must wait for the Direct-Fire Stage 6D2. If in the Direct-Fire Stage, the player decides to launch as a seeking torpedo, he must wait for the next impulse.
(FP8.332) In the case of accelerated arming (FP1.93), once reserve power is applied, the torpedo must immediately be launched or bolted.

(FP8.34) OVERLOADS: There is no overload function for a plasma bolt.

(FP8.35) FIRING ARCS: The firing arc of a plasma bolt is generally the same as the tracking arc for the corresponding plasma torpedo.

However, arcs for swivel launchers are limited for bolt purposes as follows:

TRACKING ARC	LIMITED TO
LP	L+LF
LS	L+LF (LS for plas–D-rack)
FP	FA
RP	RF+R
RS	RF+R (RS for plas–D-rack)
LPR	L+LR
RPR	R+RR
AP	RA

(FP8.36) FEEDBACK: If fired in the same hex as the target, the plasma bolt produces feedback damage to the firing ship equal to 25% of the warhead strength of the normal torpedo, as per (FP1.86). Extra energy from an enveloping or shotgun load is ignored for this purpose.

(FP8.4) COMBAT RESOLUTION

The effect of a plasma bolt is resolved as follows:

(FP8.41) STEP A: The owning player indicates his intention to fire a given plasma torpedo as a plasma bolt. He designates the firing ship and the target. See (E1.612) for narrow salvoes.

NOTE: If using (D17.0) Tactical Intelligence, the specific weapon fired might not be revealed at some ranges.

(FP8.42) STEP B: The probability of a hit is based on the effective range to the target and is given here. The hit probabilities are shown as a "Bolt" line on the plasma torpedo charts on SSDs.

RANGE	0-5	6-10	11-20	21-31
HIT	1-4	1-3	1-2	1
MISS	5-6	4-6	3-6	2-6

(FP8.43) STEP C: The amount of damage scored (if the torpedo hits) is equal to one-half of the warhead strength of the corresponding plasma torpedo (S-bolt = S-torpedo) at the true range to the target. Retain fractions throughout the calculation, then drop all remaining fractions before applying any damage. Bolts, even those in narrow salvoes, cannot be combined to avoid losing fractional warhead points.

(FP9.0) TYPE-D PLASMAS

This type of plasma torpedo was designed for use as a small seeking weapon by plasma empires. It was originally fired from plasma racks (FP10.0) and was adapted to use by fighters. The type-D was in general use when the Romulans and Gorns entered the General War. The type-D is held in a pre-packaged launch tube that is the same size, shape, and weight as a type-I drone. The launch tube is destroyed in the process of launching the torpedo. It is carried by some Gorn, Romulan, and ISC fighters (none of which have drones).

(FP9.1) TORPEDO SPECIFICATIONS

(FP9.11) CLASSIFICATION: The type-D plasma torpedo (pl-D, Pl-D, or type-D) functions in all ways as a plasma torpedo, except as described below. Plasma-Ds are damaged in exactly the same way as other plasmas (FP1.6), e.g., by phasers and asteroids (and not by T-bombs, disruptors, etc.).

(FP9.12) TYPE-D WARHEAD STRENGTH TABLE

RANGE	0-5	6-10	11-12	13-14	15	16+
STRENGTH	10	8	5	2	1	0

(FP9.13) LIMITED VERSIONS: There is no pseudo-torpedo (FP6.0), enveloping torpedo (FP5.0), or shotgun torpedo (FP7.0) version of the type-D plasma torpedo. See also (FP9.15).

(FP9.14) NO DOWNLOADS: Larger launchers (R, S, G, F, and the L and M in *Module X1)* cannot be downloaded (FP1.133) to the type-D.

(FP9.15) NO SHOTGUNS: Plasma-D torpedoes cannot be created in a shotgun (FP7.0) loading of a larger torpedo. See also (FP9.13).

(FP9.16) NO DRONE RACKS OR SPs: Pl-D torpedoes cannot be loaded on or launched from a drone rack or SP. Exception: A fighter or MRS armed with type-Ds can be used as an SP under (FD7.44).

(FP9.17) IDENTIFICATION: When launched, the plasma-D torpedo is identified as a plasma torpedo; it could never be confused with a drone. The warhead strength is announced under (FP1.32).

(FP9.18) DISTRACTION, EW: Type-D torpedoes, having relatively unsophisticated warheads, can be distracted by chaff (D11.0). No other plasma torpedoes can be distracted by chaff. This is the only way (in combat) that a Pl-D is like a drone. Scout sensors (G24.0) cannot attract Pl-Ds or break their lock-ons. Pl-Ds will be distracted by WWs and cloaks just as any other plasmas will be. Pl-Ds have the same ECCM as other plasmas (FP4.3) and have the ECCM of the guiding unit. Pl-Ds, like other plasmas, do not have guidance options, different speeds, or warhead modules as drones do (FD10.0).

(FP9.2) ARMING PROCEDURES

(FP9.21) SPACE: Type-D plasma torpedoes are stored, transported, handled, and loaded as drones are, each taking one "space" (J4.825).

(FP9.22) ACTIVATION: When placed on a fighter ready rack, plasma rack, or fighter, they can be activated, which requires 1/2 of an energy point (reserve or allocated) per torpedo. The weapon cannot be launched until it has been activated. See (FP10.32).

Torpedoes on fighters assumed to be loaded before a scenario (due to weapon status) are assumed to be active.

If a Pl-D is not fired within 25 turns of activation, it becomes inactive. Pl-Ds on fighters (or MRS) which are launched are kept active by the fighter; those on a fighter in a shuttle bay will deactivate in 25 turns if the fighter is not launched. If a fighter with a Pl-D lands, the 25 turns is counted from the impulse of landing and does not include time spent in flight or during previous visits to the bay.

(FP9.3) FIGHTERS USING PLASMA-D

The type-D torpedoes are carried by several types of fighters. Those fighters armed with this weapon are listed as such on Annex #4 Master Fighter Chart. On that chart, the type-D plasma torpedoes are listed in the "drone" column as Pl-D to avoid confusing them with the plasma-Fs carried by other fighters. Plasma-Ds are also carried by some types of MRS shuttle; see (J8.1) in *Module J.* In addition to the fighters and shuttles currently listed in this rule, new fighters and shuttles may later be introduced which use this technology; if so, this will be noted in their descriptions.

(FP9.31) GORNS: G-8, G-12, G-18, G-20, and G-30 fighters carry the plasma-D. See Annex #4. No Gorn fighter carries drones, even those fighters built by the Federation. (No Federation fighter carries the plasma-D for that matter.)

(FP9.32) ROMULANS: Gladiator-F, Gladiator-SF, and Gladiator-FSF fighters carry the plasma-D, as well as the Tribune heavy fighter. See Annex #4. At one point it was thought that some Klingon-built fighters had been in service with the Romulans and that these might have been modified to carry plasma-Ds (as the Romulans had no drones). This has been found to be incorrect.

(FP9.33) ISC: ISC Attrition, Superiority, Fast Superiority, and Heavy Fighters carry the plasma-D. See Annex #4.

(FP9.34) PIRATES: Pirate carriers operating in plasma zones use "local" Gorn, Romulan, or ISC fighters armed with plasma-Ds. They never mount plasma-Ds on a drone-armed fighter or vice versa.

(FP9.35) OTHERS: Other empires consider the type-D plasma torpedo to be foreign technology (U7.1). If used, availability would be restricted severely (and might be outlawed by the campaign). It could be assumed that one CV with up to twelve fighters (normally drone-armed) could be converted to using plasma-Ds. Note that this is not one per campaign turn, but one total at any given time. This reflects the difficulties of production and supply. The production rate would not support more than one squadron, and this would be kept on a single ship so that the entire supply could be sent there.

(FP9.36) PLASMA-D FIRING RATES: Fighters and MRS shuttles which carry type-D torpedoes can fire one per turn unless specifically stated otherwise. See (J1.341) and (J4.28).

(FP9.37) NO BOLT ON FIGHTERS: Type-D torpedoes mounted on fighters and MRS shuttles cannot be bolted (FP8.23).

(FP9.4) LOADING ON FIGHTERS

Plasma-D torpedoes are handled in a manner similar to type-I drones; see (FP9.21). See (FP10.3) for plasma racks.

(FP9.41) DECK CREWS: Plasma-D torpedoes are loaded on fighters by deck crews exactly as type-I drones are loaded (J4.825).

(FP9.42) CARRIER STORAGE: Carriers operating fighters armed with type-D torpedoes have storage for them as shown in Annex #7G. Casual carriers use the procedures of (J4.62) by substituting plasma-Ds for type-I drones. See (FP9.21).

(FP10.0) PLASMA RACK

The plasma rack is a rapid-fire launcher for type-D plasma torpedoes, first deployed in Y165. It is intended primarily for defense against massed fighter and drone attacks, but has a supplementary offensive capability. This weapon is installed on relatively few ships, mostly in carrier groups (to consolidate supply lines). It was installed on many Klingon-built ships in the position where the Klingons mounted anti-drone launchers. None of the Klingon-built ships in Romulan service ever mounted anti-drones.

(FP10.1) DESCRIPTION

The plasma rack is very similar to a drone launcher, holding four one-space type-D plasma torpedoes. Each rack is treated individually. The plasma rack is designated "PL-D" on SSD sheets.

(FP10.11) PLASMA-D ONLY: The plasma rack can only hold type-D plasma torpedoes. It cannot hold other types of plasma torpedoes, nor can it hold any type of drone or anti-drone.

(FP10.12) FIRING ARC: All plasma racks have a 180° field of fire (usually LS or RS). If fired as a bolt, they can fire on any target in this arc. If fired as seeking weapons, they can engage any target in this arc and can be faced toward any hex side partially within this arc. The bolt arcs for plasma racks are less restrictive than those for plasma torpedoes due to the nature of the system.

(FP10.13) AEGIS: If the ship is equipped with aegis fire control (D13.0), the firing rate of the plasma rack does not increase. The rack can, however, fire one of its torpedoes as a bolt on any one of the four aegis steps (within other limits). See also (FP10.22).

(FP10.14) RACK CAPACITY: Due to the violent nature of the launch of the type-D plasma torpedo, there can be no larger rack for this weapon (such as the type-B drone rack) on non-bases. The ammunition (four torpedoes per rack) cannot be increased; see (FP10.31) for reloads.

(FP10.15) RACIAL TECHNOLOGY: The plasma rack was used by the Gorns, ISC, Romulans, and the Orions. Other empires (except as may be noted) treat the plasma rack as foreign technology under the (U7.0) campaign rules.

(FP10.16) DESTRUCTION: Plasma racks are destroyed on "torpedo" hits. (A change from an earlier edition.) See (D4.3222) and Annex #7E for priority of damage. (FP1.7) does not apply to plasma racks.

(FP10.2) OPERATION

(FP10.21) MODES: The plasma rack can fire in either of two modes: offensive or defensive. The decision on which mode to use is made at the point of the first firing of a given plasma rack during a given turn. The rack operates in the selected mode for the remainder of the turn, but it can change modes when first fired during the next turn. Note that the faster-firing defensive mode allows several firings in the same turn, allowing the ship to fire by both means (FP10.22) during a single turn when in that mode. See (FP10.23).
(FP10.211) OFFENSIVE MODE: The rack can fire one torpedo per turn, during any impulse of the turn but not within 1/4 turn of a torpedo fired in either mode during the previous turn. It can engage any target in its arc within the other rules of the game. The one torpedo used can be fired as a bolt or launched as a seeking weapon (during the appropriate steps of the Sequence of Play), i.e., by either means (FP10.22). Unlike defensive mode, there are no restrictions as to target type or range other than the capabilities of the weapon itself and (FP10.24). Plasma-Ds can be fired on a ballistic (F4.0) course only in offensive mode.
(FP10.212) DEFENSIVE MODE: Plasma racks may fire in this mode at size-5 and smaller targets within an effective range of six hexes from the firing ship. During each impulse of a turn during which a given rack operates in defensive mode, it can be fired by either direct-fire (bolt) or seeking weapon means, but it cannot do both in a single impulse. When in defensive mode, there is no limit on the firing rate (other than ammunition and one shot per impulse) or on how long after a previous firing the weapon can be used. See (FP10.244).

(FP10.22) MEANS: The torpedoes in the plasma rack can be launched in either of two "means:" direct-fire (as bolts) or as seeking weapons (normal usage). During a given impulse, a rack can use only one means, i.e., it cannot launch a torpedo as a seeking weapon and bolt another torpedo on the same impulse. The rack's mode (FP10.21) will determine how often in a turn that the rack will be able to fire using either means.
(FP10.221) DIRECT-FIRE: In either mode, the rack can fire a maximum of one torpedo per turn as a plasma bolt. See (FP10.24).
(FP10.222) SEEKING: In offensive mode, the rack can launch one seeking weapon per turn. In defensive mode, the rack can launch one plasma-D per impulse within the restrictions given. Even if equipped with aegis, it cannot launch more than one torpedo per impulse.
EXAMPLE: During Turn #2, plasma rack #4 is fired in offensive mode at an enemy cruiser. The torpedo used could be fired as a direct-fire (bolt) weapon or launched as a seeking weapon; it makes no difference for this example. On Turn #3, the same rack is fired in defensive mode. On Impulse #4 of that turn, it fires one torpedo at a drone as a plasma bolt. On Impulses #5 and #8 of Turn #3, it fires the remaining two torpedoes as seeking weapons at enemy fighters.

(FP10.23) RELOAD MODE: There is a third mode (reloading) which is covered in (FP10.3) below. Using this mode requires that the plasma rack be taken out of action for the entire turn using the same procedure used for drone racks (FD2.42); in this mode the plasma rack cannot be fired in either offensive or defensive mode.

(FP10.24) RESTRICTIONS: Due to fire control restrictions, a ship with one or more plasma racks is under the following limitations.
(FP10.241) A ship armed with plasma racks may not fire more than one type-D plasma bolt at a size-4 or larger target during any given turn. This restriction is per firing ship, not per rack, and applies also to PFs armed with plasma racks firing at other PFs. The ship can fire one bolt from one rack at one size class four target during a given turn, not one bolt each at four different targets, or one bolt each from two or more racks at a target.
(FP10.242) A ship armed with plasma racks may not use more than two of those racks in offensive mode during a given turn.
(FP10.243) An Orion ship would require OAKDISC fire control to use more than three plasma racks effectively. See (FD4.5).

(FP10.244) PFs with plasma racks are under additional restrictions. The torpedoes launched under offensive mode by a PF count against that PF's plasma firing limit, which is usually two torpedoes per turn (K1.54); the torpedoes launched under defensive mode by a PF do not count against this limit. Similarly, torpedoes bolted under offensive mode by a PF count against that PF's bolting limit (FP8.26), while those bolted under defensive mode do not count against that limit; this is a partial exception to (FP10.221). (FP10.241) and (FP10.242) also apply to PFs.

(FP10.25) WEAPON STATUS: The arming state of plasma-Ds on a plasma rack is as follows:

Status 0.....Torpedoes inactive
Status 1.....Torpedoes inactive
Status II.....One torpedo per rack is active
Status III.....All torpedoes on racks are active

The 25-turn period in (FP9.22) begins with Turn #1 of the scenario.

(FP10.3) RELOADING

The reloading and storage procedure for plasma racks is essentially the same as that for drone racks (FD2.4) except for (FP9.22).

(FP10.31) RELOAD SUPPLY: Each plasma rack has four reload torpedoes. A given rack can use reloads nominally assigned to another rack. Plasma-Ds stored for use by fighters are interchangeable with those stored for use by plasma racks. When reloading, a rack can draw on any of the torpedoes at the player's option.
(FP10.311) Plasma-D reloads for fighters and plasma racks are handled exactly as drones are handled; see (J4.825) and (FD2.44).
(FP10.312) Each rack comes with one set of reloads (four torpedoes). Along with the Y175 drone rack refits, each plasma rack has two sets of reloads; there is no extra cost for this. Extra plasma-Ds can be bought under (S3.2). They are treated like drones, and their price is given in Annex #6A.
(FP10.313) Some bases use a multiple-magazine version of the plasma rack. See (FD3.87) and (FD3.46). These do not have reloads; the reloads are in the extra magazines.

(FP10.32) ACTIVATION ENERGY: Plasma-Ds placed in a plasma rack require the same activation energy (FP9.22) as those loaded on fighters or ready racks (1/2 point). This can be supplied during energy allocation or by reserve power at any point after loading and before firing. Torpedoes activated by reserve power can be fired immediately (within the Sequence of Play). Only plasma-Ds on plasma racks (or fighters or ready racks) can be activated.

(FP10.33) UNLOADING: Pl-Ds can be unloaded from their rack (as drones can). Note, however, that an activated torpedo automatically switches itself off when unloaded from a rack/fighter and requires new activation energy after being installed on another rack/fighter.

(FP11.0) PLASMA SABOT

As the General War dragged on, ships (driven by the speeds of drones, fighters, and PFs) continued to fight at higher and higher speeds. To keep pace, the plasma empires developed a method to accelerate the speed of their torpedoes by 25% in order to engage in combat more effectively.—*Mike Filsinger, Steve Cole, & Steve Petrick*

(FP11.1) AVAILABILITY AND INSTALLATION

(FP11.11) REFIT: Plasma Sabot is a refit which can be applied to any plasma-armed ships (including bases) starting in Y180. The refit allows plasma torpedoes to fire sabot (faster) torpedoes. The cost of the refit varies with the type of torpedo:

Plasma-K or D or F or G	1 point per rack
Plasma-D Drogue	1 point per drogue
Plasma-F Drogue	2 points per drogue
Plasma-S or A	2 points per tube
Plasma-R	4 points per tube
Fighter or MRS	0.25 points per ready rack

This refit can be applied to any ship which has plasma torpedoes or which has ready racks for plasma-armed fighters. The refit cost for ready racks is paid per box, e.g., a heavy fighter has two boxes (cost 0.5), a medium bomber has three boxes (cost 0.75), and a heavy bomber has four boxes (cost 1.0). Sabots are not used in tournaments. See (K2.384) for Romulan Starhawks.

(FP11.12) INSTALLATION: The Plasma Sabot refit can be installed on any plasma-armed ship. All plasma tubes and racks (including fighter ready racks) on a given ship must be refitted at the same time. Unless otherwise noted, all published scenarios set in Y180 or later assume that the refit is installed on all plasma-armed ships.

(FP11.13) X-SHIPS include the Sabot refit in their BPVs. All plasma-armed X-ships always have the Sabot refit unless, for purposes of a special scenario rule, it is noted as not present.

(FP11.14) CAPTOR MINES may be purchased with sabot torpedoes. This upgrade has no cost but can only be applied to newly-deployed mines, not mines deployed earlier. In scenarios where a minefield was deployed prior to Y180, only 10% of the captors can have sabots for each year after they become available (e.g., 50% in Y184) up to a max of 100%.

(FP11.15) FIGHTERS
(FP11.151) Fighters and MRS shuttles armed with plasma-Ds do not need a refit to carry plasma-D canisters upgraded to sabots, but a ship cannot upgrade a plasma-D to sabot status unless the ship itself has the sabot refit. Note that carriers and escorts must pay a refit cost (FP11.11) for each plasma-fighter ready rack, and can buy this refit even if they are not armed with plasmas themselves.
(FP11.152) Fighters armed with plasma-Fs do not need a refit to carry plasma-F sabots. A ship can upgrade a plasma-F held in a fighter ready rack to sabot status if the ship has the sabot refit (said refit having required the carrier to pay to upgrade the ready racks).
(FP11.153) Fighters cannot be armed with sabots before their carrier enters the scenario. Fighters which participate in an independent scenario without their carrier may (in Y180 and after) have sabots but incur a penalty of one BPV per fighter in the victory conditions (points given to the enemy).

(FP11.16) DEFENSE SATELLITES can receive the Sabot refit at the costs listed above.

(FP11.2) ARMING

(FP11.21) COST: The energy cost of arming a sabot version of a plasma torpedo is paid on the last turn of arming. It can come from allocated power, or from reserve power at any time up to the instant of launch. Any type of power (warp, impulse, battery, reactor) can be used. This energy cost surcharge is as follows:

Plasma-K	0.25 points per torpedo
Plasma-D	0.5 points per torpedo
Plasma-F or L or G	1 point per torpedo
Plasma-S or A	2 points per torpedo
Plasma-M	3 points per torpedo
Plasma-R	4 points per torpedo

(FP11.211) Reserve or allocated power could be used to convert a held torpedo into a sabot torpedo.
(FP11.212) Sabot torpedoes can be held if the non-sabot version of the same torpedo can be held.
(FP11.213) Ships never enter a scenario with sabot torpedoes loaded; if a ship wants sabot torpedoes it must pay the additional arming surcharge on pre-scenario held torpedoes during the scenario.
(FP11.214) Once a torpedo is converted into a sabot torpedo it cannot be converted into a normal torpedo.
(FP11.215) Note that the arming surcharge for sabot loading of a Plasma-D or Plasma-K is in addition to the normal activation power.
(FP11.216) A plasma torpedo loaded as a sabot could be bolted but would act exactly as a non-sabot plasma of the same type.
(FP11.217) A sabot torpedo being held in a larger tube (e.g., a Type-S-sabot held in a Type-R tube) could be converted to the full-sized torpedo by paying the additional power required (both the increased power needed to arm the larger torpedo and the difference in sabot surcharges), assuming that the non-sabot version could be upgraded in this way (FP1.96). A player could use contingent allocation to provide some of the power for this upgrade, maintaining the option to

complete it with reserve power at some later point or at the instant of launch. If the power is not provided at the instant of launch, the contingent power is lost and the torpedo is launched as the original smaller type. If the torpedo has not been fired until the end of the turn, holding energy must be paid for the larger size; note that since you cannot hold a plasma-R, contingent upgrading of a Plasma-S in a Plasma-R tube will create a situation in which the torpedo must be launched or ejected by the end of the turn. There is no rule allowing allocated power to be used to complete the contingent arming of a weapon.

(FP11.218) A two-turn type-F load could be armed as a sabot by paying three points (rather than the normal two) of reserve power at the instant of firing.

(FP11.219) A Triaxian Plasma-A can use the Sabot system. Pay the energy cost for the basic torpedo type; the Sabot speed system works with standard, short-range, and long-range torpedoes.

(FP11.22) DESIGNATION: When a plasma torpedo is given a sabot upgrade, this must be designated on the Energy Allocation Form by the small letter "b" (for boosted speed) in the box where arming energy is recorded.

(FP11.23) SPECIAL CASES

(FP11.231) In the case of an enveloping torpedo, the sabot arming surchage is increased by 50% as follows:

Plasma-G	1.5 points per torpedo
Plasma-S	3 points per torpedo
Plasma-M	4.5 points per torpedo
Plasma-R	6 points per torpedo

(FP11.232) In the case of a plasma shotgun, all of the sub-torpedoes must be upgraded if any of them are, and each must be paid for separately at the appropriate cost.

(FP11.233) PPTs on ships with the Sabot refit can be set for Speed 40 or Speed 32 at the instant of launch by the launching player.

(FP11.3) MOVEMENT AND SPEED

(FP11.31) SPEED: Plasma sabots move at Speed 40. They move one hex per impulse, but two hexes in Impulses #4, #8, #12, #16, #20, #24, #28, and #32. They are Super Fast Units (C1.45).

(FP11.311) There is no way to fire at a sabot plasma in the first hex of an impulse in which it moves two hexes.

(FP11.312) If a plasma sabot reaches its target in the first hex of an impulse in which it moves two hexes, the second hex of movement is ignored as it is irrelevant.

(FP11.313) Assuming it is otherwise legal, either hex of movement could be used to perform an HET.

(FP11.314) As with all seeking weapons, the speed is announced at the time of launch.

(FP11.315) If a sabot plasma torpedo is launched on Impulse #3, #7, #11, #15, #19, #23, #27, or #31, it moves only one hex, not two.

(FP11.32) MOVEMENT: Plasma sabots move as plasma torpedoes, with each hex of movement complying individually with all rules regarding the movement of seeking weapons and plasma torpedoes.

(FP11.321) Terrain damage inflicted on a plasma sabot as per (C1.454) Super Fast Units.

(FP11.322) Sabot torpedoes passing through web lose (or expend) movement hexes (not movement impulses).

Example: A Sabot-S torpedo enters a strength ten web hex on Impulse #9. It would then expend one movement point on Impulse #10, a second one on #11, two on Impulse #12, one each on Impulses #13-#15, two on Impulse #16, and one on Impulse #17, leaving the web on that impulse.

(FP11.33) ENDURANCE: Plasma sabots have an endurance in impulses equal to the endurance of a non-sabot plasma of the same type in hexes.

(FP11.331) Plasma sabots count impulses rather than hexes for purposes of range degradation. Thus, a Plasma Sabot which had been on the map for nine impulses and had covered eleven hexes would still be in the Range 6-10 bracket rather than in the Range 11-12 bracket.

(FP11.332) Each impulse is counted from the Launch Seeking Weapons Step, but if a torpedo hits its target in a given impulse it counts that impulse as an impulse of movement (unless the target entered the hex the torpedo was in at the start of the Impulse, in which case the impulse does not count for endurance).

(FP11.333) Plasma Sabots require special counting procedures when moving through atmosphere hexes. The penalty in (P2.85) is counted in impulses rather than hexes and is in addition to actual movement. A plasma sabot which was launched in one atmosphere hex and strikes its target in an adajcent atmosphere hex will count this as eleven impulses rather than ten hexes (P2.852), reflecting the increased degradation cause by its higher speed. The delay impulses of (P2.853) are not counted against the plasma sabot's endurance (which is rated in impulses).

DESIGNER'S NOTES: The plasma empires had long complained that while they drone empires got better over time, their plasmas did not. By the late war years, "big plasma" was at a disadvantage. We sought several solutions, and the best of them was that suggested by Mike Filsinger, who outlined the first rules for this. We considered Speeds 36 (not worth the effort) and 48 (devastatingly effective) before playtesting proved that Speed 40 was the correct solution.

The biggest controversy was over the timing of the extra movement. The problem was that anything other than a fixed impulse schedule (all Speed-40 torpedoes moving on Impulse #4, #8, etc.) was too hard to keep track of and write rules for, but players adopted the tactic of timing their approach to be in firing position on those impulses, getting a "snap shot" at Range 2. The solution (so obvious we didn't find it until very late in the design process) was to simply declare that the torpedo didn't move twice on the impulse of launch.

Given the hundreds of existing plasma ship SSDs, we had to have a solution that didn't require new warhead tables or movement charts, and the sabot concept was not just the best idea within those limits, but proved in playtesting to be the best idea even if new tables and SSDs were considered.

Sabot is French for "shoe". The term is used in tank cannon ammunition, where a 40mm "bullet" is put into a 120mm cannon, with plastic blocks to fill the extra space. These plastic blocks, called "sabots", peel away when the shell is fired. With 120mm of gunpowder behind a 40mm bullet, you get a much faster bullet.

(FP12.0) ECM PLASMA

Plasma-armed empires sought ways to keep pace with the development of ECM drones by the drone-armed empires. They fell upon their PPTs as an obvious solution. A PPT is a warp-capable "vehicle" capable of high speed and possessing a considerable on-board power capability, and as such was very suited to use as an ECM platform.—*Steve Cole*

(FP12.1) LAUNCHING

ECM Plasmas (ECPs) are simply a firing mode of the Pseudo-plasma torpedo.

(FP12.11) ANNOUNCEMENT: At the instant that a PPT is launched, the launching player may designate it (publicly) as being an ECP. If no designation is made, there is no announcement, it is a PPT and not an ECP (all ECPs must be announced as such) and the status of the PPT's true nature remains unknown to the opponent.

(FP12.12) COST: The firing of a PPT in ECP mode does not cost any extra energy.

(FP12.13) NO WARHEAD: ECPs cannot be modified to carry warheads of any type, even by a empire (e.g., Federation) which has both plasma and drone technology.

(FP12.14) LAUNCH: ECPs have the same launching arcs and restrictions as PPTs, e.g., the launching of an ECP will blind a special sensor under (G24.1342).

(FP12.15) TRACTOR: A unit held in a tractor beam (G7.943) cannot launch ECPs, to protect itself; they could only be targeted on the unit holding the launching unit in the tractor.

(FP12.2) OPERATIONS

An ECP moves on the map as would any other seeking weapon, and generates ECM as would an ECM drone. An ECP functions under the ECM drone rules except where noted below. An ECP is self-guiding and (FD9.114) does not need a lock-on to function. ECPs cannot be used in tourna-ments.

(FP12.21) SPEED An ECP can be set for any speed up to 32 hexes per turn. (Theoretically, so could a PPT, but if set at any speed other than 32 it would be instantly revealed as a PPT.) An ECP cannot, however, change speeds once it has been launched. If an ECP is tracking a unit which is going slower than the ECP, the ECP may be required to move out of the unit's hex, after which it will continue to seek the unit.

(FP12.22) ECM: An ECP generates three points of ECM and functions in that regard as an ECM drone. This includes all ECM drone rules (FD9.0) except where noted in (FP12.0). Note that as a unit cannot benefit from two ECM drones, it cannot benefit from two ECPs or from one ECM drone and one ECP. This ECM generation uses the ECCM generator included in all PPTs and hence the ECP cannot generate ECCM.
(FP12.221) This could include launching an ECP to provide ECM protection to plasma torpedoes (or drones) launched in the same impulse by the same ship, but note that an ECP (which is simply a firing mode of a PPT) could not be launched from the same mount on the same impulse as a plasma torpedo (FP6.22).
(FP12.222) Special sensors cannot affect an ECP as they could not attract a plasma or PPT (G24.2).
(FP12.223) ECPs cannot escort fighters or shuttles (FD9.16).

(FP12.23) ENDURANCE: An ECP has an endurance of 96 impulses.

(FP12.24) DESTRUCTION: An ECP is destroyed by six damage points; it takes damage as a plasma torpedo because the plasma deception shroud is still operating. (No one is confused into thinking it is a PPT since it is broadcasting ECM not ECCM.) Note that phaser damage (or other damage) is not reduced by half; six *damage points* (not six *warhead reduction points*, that term being irrelevant to ECPs) destroy it. Six points of phaser damage, six points of asteroid damage, six points of damage from the plasma-eating monster, etc. Drones, anti-drones, disruptors, and a lot of other weapons cannot damage plasma torpedoes and cannot damage ECPs.

(FP12.25) CLOAKED TARGET: If a unit protected by an ECP cloaks, the ECP can roll to retain lock-on (and would ignore the ECM it is providing to the cloaked unit when determining if a lock-on was retained), but even if it does, it cannot loan ECM to a cloaked unit. If the unit uncloaks (whether a lock-on was retained or not), an ECP that is still functioning would resume providing ECM. If other units and the ECP are rolling to retain lock on (G13.33) at the same time, the ECM of the ECP does not count as it cannot provide ECM to a cloaked unit. If an ECP loses lock-on to a cloaked unit, this does not count as an "improved condition" under (G13.3321) since the ECP is not providing ECM to that unit.

(FP12.26) TARGET WW: If a unit protected by an ECP launches a WW, the ECP will accept the weasel as its "target" but cannot loan it ECM. If the WW is destroyed or voided, the ECP (if it survived) seeks the original target (FD9.173).

(FP12.3) AVAILABILITY

All ships with pseudo-plasma torpedoes can use ECPs as of Y168. There is no BPV cost or formal refit for the ability to use this weapon. All ships with PPTs are assumed to have the ability to launch them as ECPs in published scenarios set in Y168 or later unless noted otherwise in the scenario.

(FP12.4) LATE-WAR UPGRADE

ECPs were upgraded later in the General War (Y180). On any plasma-armed ship with the Sabot refit (FP11.0), or any plasma-armed X-ship, the ECPs gain the following additional abilities.

(FP12.41) SPEED: Their maximum speed is increased to 40 hexes per turn.

(FP12.42) SPEED CHANGES: They can change speed as an ECM drone could to keep pace with the unit they are protecting.

(FP12.43) ENDURANCE: The endurance of the ECP is extended from the original 96 impulses to 128 impulses.

(FP12.44) WS-III: Any ship with PPTs could (if at WS-3) arm a spare PPT as an ECP and launch it out the shuttle bay (or minelaying hatch if the ship has one). It could be launched in any direction. If launched out of the shuttle bay this is under the restrictions of (J1.50).

There is no energy or BPV cost for this, but each ship can only do this once during a scenario. If the ship is at WS-2, it takes two turns to prepare this ECP (using one of the shuttle bay deck crews). If the ship is at WS-1, it takes four turns to prepare the ECP. If the ship is at WS-0, it requires six turns to prepare the ECP. If the ship is surprised, it cannot arm an ECP at all during the scenario. (These Weapon Status restrictions apply only to the one launched from the shuttle bay.) A PPT cannot be launched in PPT mode by this method, only in ECP mode.

DESIGNER'S NOTES: From the moment that the ECM drone was invented, the plasma empires have wanted one of their own. Several ideas were kicked around over the years. One night while SVC and SPP were having dinner, SVC got the idea of using the PPT as the basis of such a weapon. (Fearing rejection, SVC insisted that this idea had come from someone else, but it was all his.)

The solution was a good one and worked well in playtest. It didn't require a new weapon, a new launcher, or new SSDs. And it came at a cost; you have to give up your PPT (and the enemy knows you gave it up) to use one. This avoided any problems with balance or BPV; to gain this advantage you have to give up one that is equally important!

(FP13.0) TYPE-K PLASMA TORPEDO

Known as the "dogfight plasma," this weapon is little more than a footnote in history. Developed by the Gorns, and copied by the Romulans, ISC, and Orions, the plasma-K was even smaller than the plasma-D and was, like it, held in a stasis canister. While the plasma-K had the advantage of being small enough to load on some fighters, its weak warhead made it unpopular and almost useless in other than a defense mode. It is estimated that two-thirds of the plasma-Ks ever fired in anger were used by Romulan fighters to intercept Federation drones.

A plasma-K uses all rules of the plasma-D except as noted herein.

(FP13.1) ARMING

Plasma-Ks (like plasma-Ds) come from the factory armed and only need to be energized. This requires 1/4 of a point of energy, half of the amount required for a plasma-D. ✯

(FP13.2) WARHEAD STRENGTH

A plasma-K has considerably less range and power than a plasma-D when fired at units larger than size class 6.

Range	0-5	6-7	8-9	10	11+
Strength	5	4	2	1	0
Bolt	1-4	1-3	1-3	1-3	N/A

Due to the warp-seeking nature of its guidance system, the plasma-K was considerably more effective against smaller targets (FP13.5), effectively doubling the damage, i.e.:

Range	0-5	6-7	8-9	10	11+
Strength	10	8	4	2	0

Note: The above increase in damage is not used if the torpedo is bolted at a target as the warp seeking nature does not apply to such a direct-fire application. The doubled damage is based on the strength of the plasma when it hits the target and after accounting for any reduction in warhead strength, rounded down, as a result of "phaser" damage. Thus a plasma-K with four points of phaser damage striking a shuttle on its sixth hex of movement would do four points of damage to the shuttle.

For purposes of firing inside a bay plasma-K torpedoes operate under (G7.813) (warhead value at a size class 5 or larger target and destroying the launching unit and the box it is in) and not (G7.814) (the doubling of the warhead is only ever used when fired at small targets).

(FP13.3) FIGHTERS

A plasma-K can replace a plasma-D on a launch rail (one for one) of a fighter (or MRS) that carries plasma-Ds. The presence of plasma-Ks on a given fighter does not increase its plasma-launch rate, i.e., a fighter with a plasma-K and a plasma-D can still only launch one of these in a turn (J4.28).

(FP13.31) K-RAILS: A few fighters (see racial sections) were designed to carry plasma-Ks on light rails, including the Gorn copy of the Shenyang F-7 (R6.F11).

(FP13.32) LOADING: As a plasma-K capsule is half of the size of a plasma-D, it requires half of a deck crew action to load onto a fighter launch rail or ready rack. Activation energy can be applied as part of this action. Plasma-Ks loaded by (J4.8962) can receive activation energy before loading.

(FP13.33) STORAGE: For each plasma-D replaced by a plasma-K on a fighter's ready rack/launch rail, two plasma-Ks can replace one plasma-D in a carrier's reload storage. Unlike drones, a player controlling a plasma carrier can choose the mix of his available plasma-D storage that he wishes to have as plasma-Ks irrespective of the number of plasma-Ds and/or plasma-Ks that are loaded in his ready racks/launch rails at the start of a scenario. Thus a Warhawk (50 plasma-Ds stored for its fighters) operating five Gladiator-Fs could choose to start them with ten plasma-Ds (two per fighter) and determine that the 40 plasma-Ds in reload storage are in fact 30 plasma-Ds and twenty plasma-Ks. He might also decide to have the fighters loaded with ten plasma-Ks and his reloads be 45 plasma-Ds. He can mix this in any way he chooses, perhaps having each fighter loaded with one plasma-D and one plasma-K with 42 plasma-Ds and one plasma-K in reload storage. Whatever his available reloads will be must be recorded in writing before the scenario begins.

(FP13.4) PLASMA RACKS

(FP13.41) RACKS: Plasma-Ks can be loaded in plasma racks (FP10.0), with each plasma-K replacing one plasma-D in the rack.

(FP13.42) DROGUES: Plasma-Ks can be mounted in plasma drogues (G34.313), with each plasma-K replacing one plasma-D in the rack.

(FP13.43) CAPTORS: Plasma-Ks can replace plasma-Ds on type-G captor mines on a one-for-one basis.

(FP13.44) K-RACKS: No rack specifically to operate plasma-Ks was ever developed, nor was it possible to have two plasma-Ks replace a single plasma-D on any of the above systems.

(FP13.5) SEEKERS

Plasma-Ks are the only warp-seeking plasma torpedoes. It was not possible to mount a warp-seeking warhead on larger plasma torpedoes (not even plasma-Ds) as the warhead's power overwhelms the sensor, blinding it. This means that, like type-VI drones, once a plasma-K has its own lock-on (at eight hexes range) it cannot be distracted by a wild weasel (FD5.131) and will remain targeted on a cloaked ship (FD5.131). [This latter fact would be useful except that (FP1.313) prohibits plasma torpedoes from being targeted on plasma torpedoes, so the darkfire tactic of launching drones targeted to hit a type-VI targeted on a cloaked ship on the same impulse the type-VI hits the cloaked ship will not work.]

(FP13.51) CHAFF: Plasma-Ks can be distracted by chaff (FD5.132) as plasma-Ds can be.

(FP13.52) RANDOM TARGETS: Plasma-Ks will target "friendly units" under the same provisions as type-VI drones if released from a fighter (or MRS) scatterpack in random targeting mode (FD7.371). Note that due to the restricted release arc of such a fighter, any such plasma-Ks will only target units in the fighter's (or MRS') FA arc (FD7.444).

(FP13.6) SUMMARY

There is no pseudo-plasma-K. Shotguns cannot produce plasma-Ks. Larger launchers cannot download plasma-Ks. Plasma-Ks cannot be mounted in scatterpacks, excepting plasma-Ks on a fighter or MRS operating as a scatterpack (FD7.443).

(FP14.0) PLASMA CARRONADE

The Plasma Carronade is a Gorn weapon. It is an optional employment function of the Plasma-F. It is fired in the same manner and under the same restrictions as a plasma bolt (FP8.0), but the firing aperture is wider, resulting in a broader but shorter-ranged blast of plasma.

(FP14.1) DESIGNATION

(FP14.11) SSD: As the Plasma Carronade is a firing mode of the Plasma-F, there is no SSD designation.

In a theoretical future case where a ship is armed with weapons that can fire only as a Carronade, the box could be designated PLC and would be damaged on a "torpedo" hit and would fall in priority (D4.322) after the Plasma-F.

Plasma launchers larger than F cannot fire Carronades as "downloads" of these larger weapons or when "hastily repaired". Carronades are not used in tournaments.

(FP14.12) DESTRUCTION: As this is a firing mode of the plasma-F, this rule is irrelevant. In the theoretical case of a "Carronade only" weapon (PLC), it would be destroyed as a Plasma-F.

(FP14.13) REPAIR: Repairing a destroyed Gorn Plasma-F restores the Carronade capability.

(FP14.14) TECHNOLOGY RESTRICTIONS: The Plasma Carronade was originally used only by the Gorns. It was deployed by the Gorns about Y165 and is included in their ships at no additional cost. There is no additional repair cost and no way to repair a damaged Gorn plasma-F launcher without the Carronade feature. The refit cannot be detected unless the weapon is fired as a Carronade.

The Orions gained access to this technology in Y170 and had passed it to the WYNs by Y175. The Gorns gave the Carronade technology to the Federation in Y175 to assist them in hunting cloaked Romulans. Obviously, simulator ships can use it. There is no cost for any of them. For simplicity, the phrase "or those other ships which have Carronade-capable plasma-Fs" is omitted from many rules in this section. The ISC and Romulans never gained access to this technology.

(FP14.15) SIZE CLASS RESTRICTIONS: Fighters and other size-6 units armed with plasma-Fs cannot use the Carronade firing option. PFs and Interceptors can use the Carronade option but this counts as a "launch" for the firing rate limit, i.e., a Gorn PF could use this option as its two allowed plasma shots in a turn (K1.543).

(FP14.2) ARMING PROCEDURE

(FP14.21) ENERGY: The Plasma Carronade is a firing option for the Plasma-F. A plasma-F launcher which is armed with one or more points of energy can be fired as a Carronade, which would allow a Gorn ship to fire its Carronades every turn if the tactical situation warranted. Additional energy adds to the damage produced by the weapon; see (FP14.33) and (FP14.36) below. Firing a Carronade shot from a Plasma-F launcher uses all of the arming energy stored in the launcher. This is considered the same as launching or bolting a Plasma-F for purposes of subsequent arming or firing by that launcher. Note that the Plasma-F must always use the normal arming

rules (one point on the first turn, one on the second, three on the third) even if the captain is certain that he plans a Carronade shot this turn.

(FP14.22) DESIGNATION: The decision to fire a plasma-F launcher as a Carronade is made at the instant of firing. No prior designation is required.

(FP14.23) RESERVE POWER: A plasma-F launcher which has not been fired on the current turn may be armed with one point of reserve power to allow a Carronade shot; if the shot is not taken that point of power could count as the first turn of arming a standard plasma-F or a later overloaded Carronade shot. Reserve Power cannot be used to add power to an armed Plasma-F launcher to produce a Reinforced Shot in excess of the maximum arming of a plasma-F (FP14.36).

(FP14.24) WEAPON STATUS: If a plasma-F launcher is armed by weapon status, it could be fired as a Carronade. If a special scenario rule indicates that a given Gorn plasma-F launcher has been arming for one or two turns, then that energy could be used to fire a Carronade shot.

(FP14.25) SABOT: Carronade is a normal firing option. If the plasma-F torpedo is converted into a Sabot shot, then by (FP11.214) it cannot be converted back to a normal torpedo. It can be bolted (FP11.216), but not fired as a carronade shot.

(FP14.3) FIRING PROCEDURE

(FP14.31) PROCEDURE: The Plasma Carronade is a "range of effect" weapon. Roll one die and consult the chart in (FP14.33). The Carronade is affected by (G13.37). A plasma-F can fire a Carronade shot without active fire control under the appropriate rules and penalties.

(FP14.32) DAMAGE PROCEDURE: Damage is processed as if it were a hit from a plasma bolt.

(FP14.33) PLASMA CARRONADE FIRING TABLE

Die Roll	Damage
1	4
2	4
3	4
4	4
5	3
6	3
7 or more†	2

(† this could result from an EW shift.)

(FP14.34) MAXIMUM RANGE: The maximum range of a Plasma Carronade is five hexes (true range). A Plasma Carronade always uses True Range rather than Effective Range. A Carronade can be fired at a range of zero hexes if the target is within the firing arc.

(FP14.35) FEEDBACK DAMAGE: There is no Feedback damage from a Plasma Carronade.

(FP14.36) OVERLOADS: While there is no true overload function of a Plasma Carronade, the firing table in (FP14.33) assumes one point of power was in the Plasma-F launcher at the time the launcher fired a Carronade shot. If there was more than one point of energy, add one point to the damage scored for each additional point of power. This is properly termed a Reinforced Carronade Shot, rather than an Overloaded Carronade Shot.

For example, a fully-armed Plasma-F launcher would have five points of power in it (no more can be added). This would mean that whatever damage is rolled on the table in (FP14.33), four points would be added (resulting in seven or eight points of damage).

(FP14.37) FIRING RESTRICTIONS: The directions (firing arcs) that a Plasma-F launcher can fire a Carronade shot depend on the original firing arcs of the launcher:

Plasma Arc	Carronade Arc
FP	FA
LP or LS	L+LF
RP or RS	RF+R
AP	RA
LPR	L+LR
RPR	RR+R

(FP14.5) SPECIAL CASES

(FP14.51) TERRAIN: Plasma Carronades are treated as phasers (not as Plasma Bolts) for terrain effects. Carronade shots cannot be fired through a hex containing a planet (P2.321), moon [Exception: (P2.3221)], star (P12.1), black hole (P4.23) or pulsar (P5.32). They can be fired into such a hex. They can be fired through asteroid (P3.33) and ring (P2.223) hexes with the standard EW penalties, and can be used to clear a path through asteroids.

(FP14.52) ATMOSPHERES: Plasma Carronade shots are treated as phasers for purposes of atmosphere. They add one to the die roll for each hex of atmosphere.

(FP14.53) SIZE CLASS SEVEN TARGETS
(FP14.531) Plasma Carronades are not subject to the Small Target Modifiers or the Firing At Drones (FD1.52) penalties.
(FP14.532) Plasma Carronade shots do not affect plasma torpedoes as they are effectively the same as a plasma bolt in the damage they cause.
(FP14.533) The Plasma Carronade is not penalized by (M8.52) when used to sweep mines.
(FP14.534) The Plasma Carronade can be used for mass driver point defense.

(FP14.54) WEBS: Plasma Carronades cannot be fired through web or damage a web. They can damage a target that is held in web and they can be fired out of a web hex.

(FP14.56) NVC: The Plasma Carronade cannot use Non-violent Combat (D6.4).

(FP14.57) ESG: Plasma Carronades can be fired through ESGs just as phasers or plasma bolts could be.

(FP14.58) TRACTORS, TRANSPORTERS, SFGs, DISDEVs: Plasma Carronade shots cannot be affected by transporters, tractors, SFGs, or Displacement Devices.

DESIGNER'S NOTES: The Gorns have been asking for their own unique weapon since the game started, and felt that "free GAS shuttles" was some kind of sick joke.

I have always been willing to give them one, but given dozens of Gorn SSDs already printed, it was hard to do without causing howls of anger from players who would not want to buy new books just for that. So, it had to be some kind of way to use an existing weapon. The other side of the coin was that it had to be something that the Gorns actually needed. Their only real enemy was the Romulans, and to give them some neat super-plasma would see the Romulans demanding their own copy. The final decision was to create a weapon that, while not important enough to affect game balance in normal combat, would have an improved effect against cloaked targets. The Plasma Carronade followed as a logical development of these requirements.

END OF SECTION (FP0.0)

(G0.0) SYSTEMS

(G1.0) GENERAL RULES

Ships include many systems (primarily electronic) which are used to perform the assigned tasks. Most systems are defined in this section; weapons and certain other systems are defined separately.

(G2.0) CONTROL SYSTEMS

Each ship contains several control systems. These represent the ability of the captain to control his ship. If all control systems are inoperable (destroyed), then the ship is considered to be "uncontrolled;" see (G2.2).

(G2.1) DEFINITION

(G2.11) GENERAL: The following systems are control systems: bridge, emergency bridge, auxiliary control, and flag bridge. These are within the general category of "control systems" for purposes of repair cost (Annex #9), emergency damage repair (D14.0), lab substitution (G4.31), etc.

(G2.12) DAMAGE: Each damage point allocated to a control system destroys one appropriate box on the SSD.

(G2.13) SECURITY: Klingon security stations (G6.1) are considered as control systems for all purposes except actually controlling the ship (G2.2). Security stations are not used to control the ship (they are used to control the crew). The security officers could manage to get the ship home, but could not control it in combat.

(G2.2) EFFECT OF BEING UNCONTROLLED

(G2.20) BECOMING UNCONTROLLED: If all control systems (excluding security) on the ship are destroyed (or have been captured by enemy boarding parties), the following restrictions apply to the ship on the turn following the destruction/capture of the last control box and on all subsequent turns. If a control box is repaired or recaptured, the restrictions are removed at the end of the turn during which this happens.

NOTE: See (G9.44) if the ship is also "undermanned."

(G2.21) MANEUVERING by an uncontrolled ship is restricted. These restrictions can only take effect at the start of a turn.

(G2.211) The Turn Mode is increased to the next higher category (B to C, etc.).

(G2.212) The ship cannot:
make High Energy Turns (C6.0),
make quick reverses (C3.6),
change speed in mid-turn (C12.0),
use Erratic Maneuvers (C10.0), or
perform Emergency Deceleration (C8.0).

(G2.213) If the ship attempts to land on a planet by any procedure except a crash landing, roll one die at the point when the ship actually lands. If the result is one-to-three, proceed normally; otherwise treat it as a crash landing (P2.431).

(G2.22) TACTICAL MANEUVERS (C5.0) are allowed only in the last half of any given turn (after half of the impulses have elapsed). Tactical Maneuvers in the first half (Impulses #1-#16) of the turn (and the energy paid for them) are lost. If under these restrictions, the ship allocates power for Tactical Maneuvers as usual, but loses any such maneuvers (and the energy allocated for them) earned or scheduled to take place in the first half of the turn. The one allowed impulse (sublight) Tactical Maneuver cannot be lost. Crippled ships do not have to pay (in subsequent Energy Allocation Phases) for Tactical Maneuvers on the first half of a turn when they would not be able to use them.

(G2.23) COMBAT: The ship may fire weapons normally at only one target in any given turn; this fire must be in a single impulse. All other use of direct-fire weapons is considered to be under the "disrupted fire control" provisions of (D6.68).

(G2.231) ADDs (E5.0) operate with an automatic and autonomous tracking system and are not affected by being uncontrolled. This includes G-racks in ADD mode. This does not include type-VI drones launched from an ADD or G-rack.

(G2.232) A PPD (E11.0) would fire for only one pulse, the others being lost. A PPD continuing fire from a previous turn would fire only on the first impulse. This is regardless of the target type.

(G2.233) A web caster (E12.0) could place web only in a single hex. This would be limited to five hexes range unless it was the "one target" engaged with normal fire.

(G2.234) The ship can only control seeking weapons equal to half of its sensor rating (round fractions up). The ship can only launch seeking weapons during one impulse of the turn and can guide them to only one target (the same target as direct-fire weapons).

(G2.24) SYSTEMS: The ship may not:
use tractor beams (G7.0) (any existing tractor links generated by the ship are lost),
use labs to identify seeking weapons (G4.2),
use ECCM (D6.3),
launch wild weasels (J3.0),
use any scout functions (G24.0),
or lay, control, detect, or sweep mines (M0.0).
The ship can use negative tractor power (G7.35). It uses transporters (G8.0) normally. This rule creates an exception to (D6.681).

(G2.25) FIRE CONTROL: The ship may not use:
Aegis (D13.0) or limited aegis fire control,
DERFACS (E3.62) fire control, or
UIM (D6.5) fire control.
It may use Passive Fire Control (D19.0) and Low Powered Fire Control (D6.7). Its fire control can still be Disrupted (D6.68).

(G2.26) SPECIAL WEAPONS: The ship may not use stasis field generators (G16.0) or displacement devices (G18.0). Temporal Elevators (G31.0) cannot be used, and cease to function, if the base is uncontrolled.

(G2.27) FLYWHEEL: The ship cannot benefit from or use a positron flywheel (C9.0).

(G3.0) HULL

(G3.1) DEFINITION

(G3.11) GENERAL: The various boxes marked "hull" represent various non-critical parts of the ship. These include such things as crew quarters, gymnasiums, bowling alleys, storage, swimming pools, machine shops, libraries, etc. While damage in these areas is not particularly desirable, it does not materially affect the ship's ability to participate in combat. (They can be repaired later, after the crisis has passed.) In practice, hull hits are "free" hits (i.e., damage that doesn't hurt).

(G3.12) OTHER SYSTEMS DESTROYED BY HULL HITS: Repair (G17.25) and barracks (G28.2) are destroyed on "hull" hits; see Annex #7E.

(G3.2) CLASSIFICATION

Hull is divided into three types as described here. See (D4.351) for instructions on scoring damage on the various types of hull.

(G3.21) FORWARD HULL: This is marked F HULL on SSDs. Some SSDs have "HULL" over a group of boxes with an "F" in one box. Forward Hull boxes are destroyed only on "F Hull" damage points.

(G3.22) REAR HULL: Rear Hull (also known as Aft Hull). This is marked R HULL or REAR HULL on SSDs. Some are earlier SSDs are marked A HULL or AFT HULL. Some have HULL over the group

of boxes with an "R" in one box. The terms Rear Hull and Aft Hull are interchangeable, but Aft Hull is being phased out of use. Rear Hull boxes are destroyed only on "R Hull" damage points (earlier versions of the Damage Allocation Chart use "A Hull" instead of "R Hull").

(G3.23) CENTER HULL: Some ships have a third type of hull, while others have all of their hull boxes combined into a single type. This is simply marked HULL or sometimes C HULL on the SSD.

EXAMPLES: The Gorn Heavy Cruiser has all three hull types. The Tholian PC has only Center Hull.

(G4.0) LABS

The laboratory boxes indicate the ability of the ship to conduct scientific experiments and gather information. In the "monster" scenarios, these labs can sometimes be used to gain victory points, e.g., (SM2.46). In combat with other ships, however, they in effect become just free hits; exceptions, see:

(G4.2) Identification of seeking weapons,
(D14.0) Emergency damage control, and
(D17.228) Tactical Intelligence.

Labs do not require active fire control or a lock-on to function. Range is unaffected by which type of fire control is in use.

(G4.1) SCIENTIFIC RESEARCH

The primary operation of labs in scenarios is the scientific investigation of an object or "target," which may be a monster, unit, object, or location specified by a scenario. In general combat, scientific information has no function. This rule is used only if the scenario calls for scientific information to be gained about a specific item.

(G4.11) CHART: The chart below is used to determine the amount of information gained about the object of study on each turn. During each turn, the player should record the closest approach of his ship to the object. The chart is based on the distance from the object at closest approach (during that turn).

DIE ROLL	RANGE										
	0	1	2	3	4	5	6	7	8	9	10
1	10	9	8	7	6	5	4	3	2	1	0
2	9	8	7	6	5	4	3	2	1	0	0
3	8	7	6	5	4	3	2	1	0	0	0
4	7	6	5	4	3	2	1	0	0	0	0
5	6	5	4	3	2	1	0	0	0	0	0
6	5	4	3	2	1	0	0	0	0	0	0

(G4.12) PROCEDURE: At the end of each turn, the player must determine how much information he has gained about the monster. This is determined using the chart above. Noting the range at his closest approach to the monster and rolling a single die, the player obtains a result from the chart. This number, multiplied by the number of functioning lab boxes on his SSD at the end of the turn, is the amount of scientific information gathered about the monster. This procedure is not affected by electronic warfare (D6.3).

See (G4.43) for cloaked ships, and (C10.52) for ships using EM.
See (G24.27) for using labs in conjunction with scout sensors.

(G4.13) OTHER INFORMATION SOURCES: Administrative shuttles (J2.212), EW fighters (R1.F7), and probes (G5.2) may assist in obtaining (G4.1) information (only). These gather information based on their range to the target (and with their own die roll), which is presumably closer than the ship. Labs can be used in conjunction with scout sensors (G24.27) for enhanced information gathering.

The term "administrative shuttles" includes (for purposes of this rule) manned MSS, manned MLS, and GAS shuttles. This rule also covers manned MRS and SWAC shuttles, and manned fighters with sensor pods (J11.42).

(G4.2) IDENTIFYING SEEKING WEAPONS WITH LABS *(Advanced)*

Labs can, to a limited extent, obtain certain information about seeking weapons near the ship. See (M7.51) for identifying mines.

(G4.21) LIMITATION: Each lab box on board a ship, if it (the lab) is undertaking no other action on that turn, can make one attempt to identify a seeking weapon. This procedure can be used while the ship is under wild weasel restrictions (J3.13), but cannot be used by a cloaked ship (G13.56) or one using Erratic Maneuvers (C10.52).

(G4.22) PROCEDURE: The player owning indicates the seeking weapon (or shuttle) that he will attempt to identify, and announces how many of his labs will try to identify that unit. (Each lab can make one such attempt a turn, and not within a quarter turn of any use in a previous turn.) He then rolls a single die for each lab making the identification attempt, and if any of the results is greater than the range from his ship to the seeking weapon, then the attempt is successful and the player controlling the seeking weapon must identify it as per (G4.23).

(G4.23) INFORMATION GAINED: A successful lab attempt to identify a seeking weapon reveals the following information. See (F1.4) for other means of gaining similar information. See (G24.25) for using labs in conjunction with scout channels.

(G4.231) DRONES: The player controlling the drone must reveal its exact type (including all modules, speed, ATG if present, and endurance) and its target. The lab will also reveal armor and previous damage. When identifying the target, if the weapon is on a ballistic course (F4.0) this is revealed but the precise target hex is not. A null module (FD10.48) will be reported as an explosive module.

(G4.232) PLASMA TORPEDOES: Labs can only reveal the target of a plasma torpedo; this is revealed by the player controlling the torpedo. They cannot distinguish between plasma torpedoes and pseudo-plasma torpedoes. Note the strength of the torpedo is always known [(FP1.32) and (FP5.242)] and therefore whether or not it is enveloping without using labs. Labs cannot determine if a given torpedo was originally part of a shotgun load (FP7.0).

(G4.233) SHUTTLES can also be identified by labs. A successful attempt reveals if the shuttle is manned or unmanned and if it is following a seeking course (seeking weapon, not pursuit plotting), but not if it is carrying drones or a suicide bomb. It will reveal the target of a seeking shuttle as if it were a drone (G4.231). Note that a stationary shuttle will list its targeting even if it is not moving.

(G4.24) AEGIS: The Aegis systems uses the same rules as the laboratory procedure for the information gained, but uses (D13.31) to determine if the information is gained or not.

(G4.3) LAB SUBSTITUTIONS

(G4.31) CONTROL SPACE: A ship without labs, including ships that lost them in combat or never had them, can use one of its control spaces (G2.11) as a lab. This does not interfere with its ability to function as a control system.

If a lab is recaptured or repaired, it assumes the lab function at the start of the next turn (and the control box loses its lab capability).

No more than one control space can be used per turn.

This substitution can be used if all undestroyed lab boxes have been captured by enemy boarding parties; see (D16.0).

(G4.32) ACTIVATION: The transfer of function takes place at the end of the turn on which the last actual lab box is destroyed or captured.

(G4.33) EMERGENCY REPAIRS: One (and no more than one) control space can be used as a lab for emergency damage repair (D14.0), and only after all labs have been destroyed.

(G4.4) OTHER LAB FUNCTIONS

(G4.41) EMERGENCY REPAIRS: Labs can be used for emergency damage repair (EDR), see (D14.0).

(G4.42) PLANETARY STUDIES: Some scenarios may require a ship to gain scientific information on a planet (or ship or other object). This uses the procedures in (G4.1).

(G4.43) CLOAKED SHIPS cannot use labs to detect or study anything outside of the ship (G13.56), but can use them for EDR (D14.0).

(G4.44) POWER: Labs do not require power for scientific research or for identifying seeking weapons. They require power for EDR (D14.12). No power is needed for TacIntel (D17.228).

(G4.45) CYCLE: The standard quarter-turn delay between using a system twice (once in each of two subsequent turns) applies to labs. This applies even if the lab is used for different functions on subsequent turns.
(G4.451) Scientific research, tactical intelligence, and seeking weapon identification are tied to a specific impulse. If a lab is used for any of these functions during the last eight impulses of a turn, that same lab cannot be used for any of those functions during the first impulses of the next turn (due to the eight impulse delay).
(G4.452) Emergency damage repair (D14.0) takes the entire turn. If used for EDR on one turn, it cannot be used for (G4.451) during the first eight impulses of the next turn. However, even if the lab is used for (G4.452) during the last eight impulses of one turn, it can be used for EDR on the next turn.

(G5.0) PROBES

Probes are instrument packages used to gather scientific information. Probes can be used against certain types of space monsters, such as the Space Amoeba (SM2.0), or as emergency weapons. The "probe" results in (S6.0) are resolved as (G5.3). In most cases, the probe box on the SSD is just another free hit.

(G5.1) GENERAL RULES

(G5.11) RANGE: Probes have a maximum range of six hexes. This range is reduced in a nebula (P6.72).

(G5.12) AMMUNITION: Unless specifically stated otherwise in the ship description or shown on the SSD, all probe launchers carry five probes. Extra probes (up to five) can be purchased under (S3.2); these can be reloaded by (FD2.42).

(G5.13) SSD: Each probe box on the SSD represents one probe launcher. Most ships have one probe launcher. A few ships, mostly survey cruisers, have two probe launchers. A few ships, mostly small civilian types, do not have a probe launcher.

(G5.14) FIRING ARC: When launched to gain information, the probe has a 360° firing arc. If fired as an emergency weapon, see (G5.33).

(G5.2) INFORMATION

The primary function of probes is to gain scientific information about specific objects of interest or study. Probes can be used to gain information on enemy units (G5.24) and seeking weapons (G5.25).

(G5.21) ARMING: Probes launched for informational purposes must be armed. Arming costs one unit of energy (any type) for two consecutive turns. The second turn of charging may be the turn of launching. Only one probe may be armed or launched at a time for each launcher on the ship. If not launched during the second turn of arming, the first turn of arming is lost and the second turn of arming is considered to be the first turn of a new two-turn cycle. See (H7.42) to begin arming as a weapon with reserve power. Reserve power can also be used to arm scientific and tactical intelligence probes. Probes may not be armed prior to the beginning of a scenario unless allowed by Special Scenario Rules.

(G5.22) PROCEDURE: The ship using the probe must be within six hexes of the "object of study." The probe, when fired, moves immediately to any hex which is: within six hexes of the launching ship, in the same hex as or in a hex adjacent to the object of study, and to which there is a direct path (between the ship and the hex) which is clear of blocking terrain (webs, ESG fields, planetary surfaces, black holes, pulsars). Asteroids, small moons, and various zones are not blocking terrain. The probe then produces twenty points of "information" (G4.1) about the object of study.

(G5.23) OPERATIONS: Probes launched for information cannot be fired at, displaced, placed in stasis, moved by transporter, or held in a tractor beam. Probes launched for information or tactical intelligence cannot cross an ESG (G23.86) or web (G10.65). See (G5.37) for an interesting difference between scientific and weapon probes. Probes fired into a nebula have a reduced range (P6.72).

(G5.24) TACTICAL INTELLIGENCE: In the case of probes used to identify enemy ships, see (D17.15), which uses a slightly different procedure.

(G5.25) SEEKING WEAPONS, SHUTTLES, AND MINES: A probe fired at a seeking weapon or shuttle will provide the same information as a successful lab identification (G4.23). The probe must use the procedure from (G5.22) to gain this information. Probes can be launched at a mine to gather information (M7.52).

(G5.3) EMERGENCY WEAPONS

Probes may be launched at ships or monsters as anti-matter bombs. While the probe launcher could be used as such (using the procedure below), it is intended for use as a scientific tool. It can only be fired or armed as a weapon if one (or more) of the following conditions are met.

1. If the ship is crippled.
2. If the enemy forces outnumber the friendly forces in the current scenario by 50% of their combat BPV (based on the current situation).
3. If directed to use it by the scenario.
4. If all players agree before the scenario begins (or if local tournament rules establish) that probes may be fired as weapons at any time.
5. If the ship is commanded by a legendary captain (G22.221) or manned by an outstanding crew (G21.215). Similarly, a poor crew (G21.115) can never use a probe as a weapon.

(G5.31) COMBAT: Anti-matter probes have a warhead strength of eight and are considered a direct-fire weapon. There is no overload function. There is no feedback damage. The weapon operates as a direct-fire weapon, e.g., one is added to the die roll in (G5.34) for each ECM shift (D6.34).

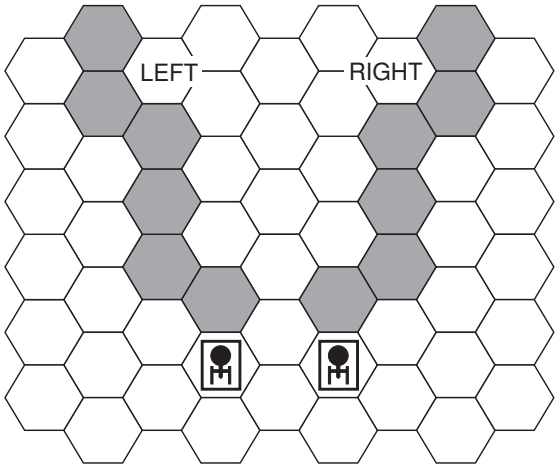
(G5.32) ARMING: Anti-matter probes are armed by allocating two units of warp energy on two consecutive turns; the weapon MUST be launched (or discharged) on the second turn; it cannot be held. If energy is not allocated on the second turn, arming is aborted and the energy allocated on the first turn is lost. The same probe could be armed again, or used as a scientific device, on a later turn. Energy must come from warp sources (H2.0) or (H2.3).

Arming can begin with reserve power (H7.53), but a probe cannot be fired within eight impulses of the point at which arming began. A probe launcher cannot begin arming with reserve power on the turn on which it was fired (for information or as a weapon).

Each probe launcher may arm only one anti-matter probe at a time. While the launch is doing this, it cannot also arm or fire a probe for informational purposes.

(G5.33) FIRING ARC: While informational probes may be launched in any direction, anti-matter bombs may only be fired directly ahead (in the row of hexes extending directly ahead of the ship). There are two exceptions.
(G5.331) A probe on a base can be fired (as a weapon) in any direction; it is not restricted to the straight hex rows. This is a true 360° firing arc.

(G5.332) Ships using Directed Turn Modes (C3.8) could use the alternative firing arcs below:



(G5.34) HIT: To determine if the probe has hit its target, roll a single die. If the result is greater than or equal to the range from the ship to the target, the probe has scored a hit. The probe can be fired at a range of zero.

(G5.35) WEAPON FUNCTIONS: There is no overload, mine, or proximity function for this "weapon."

(G5.36) MULTIPLE LAUNCHERS: If a ship has two or more probe launchers, the use of one of them as a weapon has no effect on the others.

(G5.37) ESG: Probes fired as weapons can pass through an ESG (G23.86).

(G5.38) WEAPON STATUS: Probes may never be armed as weapons before the scenario begins, regardless of weapons status, unless specifically exempted from this rule in a scenario.

(G6.0) SECURITY STATIONS AND KLINGON MUTINY *(Advanced Rule)*

Unlike other ships in the game, Klingon starships include in their crews numerous individuals of "subject races." Normally over half the crew is composed of such individuals. While most of the "subjects" are not slaves, they are considered to be "politically undependable," and the security stations on each ship keep a constant watch on these crewmen. The security stations also watch the Klingon officers and crew for signs of weakness, cowardice, or treason.

The security stations are manned by the Empire Security Service, members of which are not naval personnel and are not under the direct control of the captain.

(G6.1) SECURITY STATIONS

(G6.11) SSD: Most Klingon ships have two security stations, each represented by one or two boxes on the SSD. Some ships have only one, and a very few have three or more.

(G6.12) DAMAGE: Hits designated by the DAMAGE ALLOCATION CHART as "flag bridge" hits will be scored against the security stations of a Klingon ship. For this reason, no Klingon ship has a "flag bridge." The flag bridges on Klingon ships are merged with the regular bridges for SSD purposes, which is appropriate because Klingon admirals and commodores are expected to command their flagships as captain during combat. See Annex #7E.

Exception: Diplomatic ships (e.g., D7N and D5N) have flag bridges.

(G6.13) EFFECT ON BOARDING PARTY COMBAT: Security stations give Klingon ships an advantage in boarding party combat; see (D7.422)-Step 2A.

(G6.14) EXEMPT FROM MUTINY: Klingon diplomatic ships (e.g., D7N, D5N), PFs, computer-controlled ships (G11.25), and X-ships cannot mutiny. Other ships which cannot mutiny may be designated in their ship descriptions. Ships with poor crews mutiny more often (G21.144); ships with outstanding crews (G21.244) mutiny less often.

None of these mutiny-exempt ships are in *Basic Set*.

Ships which have already experienced one mutiny (G6.24) cannot mutiny again during the scenario.

(G6.2) HOW MUTINY CAN OCCUR

If all security stations are destroyed [or captured by enemy boarding parties under (D16.0)], there is a possibility that the crew will mutiny and successfully take control of the ship.

(G6.20) PROCEDURE: The possibility of a mutiny is determined by a die roll. When the last security station is knocked out (or captured), a die is rolled immediately to determine if a mutiny has broken out. If it has not, then at the end of that turn, and at the end of all subsequent turns until a mutiny is staged (or a security station is repaired or recaptured), a die must be rolled.

On a die roll of "1," a mutiny has occurred.

When a mutiny occurs, immediately roll a second die to determine if the loyal crewmen have been able to retain control or if the ship has been seized by the mutineers. On a die roll of "1," "2," or "3," the mutiny has been put down. On a die roll of "4," "5," or "6," the mutiny has been successful. Note the option stated in (G6.25).

(G6.21) MARINES: While there is nothing to prevent the Klingon player from transferring boarding parties around between his ships, the presence of more or fewer boarding parties has no effect on the chance of a mutiny happening or on its success since the boarding parties themselves are largely non-Klingon troops and would be as likely to mutiny as the crew of the ship.

(G6.22) ENEMY MARINES: For every fourth enemy (enemy of the Klingons, not counting mutineers) boarding party on board (not counting those enemy boarding parties conducting "hit-and-run" raids), subtract one from the die roll when determining if the mutiny has occurred (a result of less than one is considered to be one) and add one to the die roll when determining if it was successful.

(G6.221) If the ship is size class 2, this effect is caused by every sixth enemy boarding party.

(G6.222) If the ship is size class 4, this effect is caused by every second enemy boarding party. (Size class 5 ships, i.e., PFs, cannot mutiny.)

(G6.223) In the case of a starbase, which is size class 1, this effect is caused by every tenth enemy boarding party on board.

(G6.224) See (G21.144) in the case of a poor crew, (G21.244) in the case of an outstanding crew, and (G22.53) in the case of a legendary marine major. If both a crew (whether poor or outstanding) and a legendary marine major are aboard the ship, their effects are cumulative on the mutiny die roll (G22.122).

(G6.23) CONTROL SPACES: If all control spaces (G2.11) on the ship have been destroyed before a mutiny has been declared, subtract one from the die roll when determining if it occurs and add one to the die roll when determining if it was successful. This is cumulative with the effects of (G6.22), (G21.144), (G21.244), and (G22.53), i.e., an addition of one and a subtraction of one would cancel each other out.

(G6.24) SUBSEQUENT MUTINY: If the mutiny occurs and is put down, do not roll on subsequent turns for mutiny. Any crewmen who might have tried it are most likely dead.

(G6.25) BOOM SECTION: The owning player of the ship has the option, should a mutiny occur, of allowing it to be successful automatically, but retaining positive control of the boom section. See (G6.4) and (G12.0). Assume 1/3 of the crew and boarding parties are in the boom and loyal to the captain (or the senior loyal officer). The decision is made when the mutiny occurs, but before it is rolled for.

If using (D16.0) in *Module M*, the owning player would have to control the boom section to conduct separation.

(G6.3) EFFECTS OF A MUTINY

If a mutiny occurs and is successful, the following actions occur.

(G6.31) DIE ROLLS: No further mutiny die rolls are made.

(G6.32) OPERATIONS: The ship cannot move or fire weapons. The non-Klingon beings among the crew are never taught these skills. If the mutineers seize control during the turn (as opposed to at the end), the ship continues moving for the rest of the impulse procedure but cannot turn, sideslip, or fire. If using plotted movement (C1.32), the ship follows the plot.

Historical Footnote: The Klingon D6 battlecruiser *Destruction*, which was taken over by mutineers in Y170, was able to escape to Federation territory because two Federation spies, trained to operate the helm, were aboard. There is no provision in the current *SFB* rules for this unique incident.

(G6.33) SURRENDER: The "crew" notifies the ships of the opposing player that they wish to surrender. Unless the ship is subsequently recaptured or destroyed, or towed away by the Klingons, the ship is considered to be captured (by the enemies of the Klingons) for victory conditions. See (G6.62).

(G6.34) POST-MUTINY: After the mutiny is over (either successfully or unsuccessfully), the winning player (the non-Klingon player would represent the mutineers) rolls a single die for each of the Klingon boarding parties that were on board when the mutiny began. A die roll of one-3 means that the boarding party in question has survived and joined the winning side. A die roll of 4-6 means that the boarding party was destroyed in the fighting.

Any enemy boarding parties aboard are unaffected. Any Klingon boarding parties from other Klingon ships joined the mutineers or were destroyed by them. Any non-Klingon boarding parties allied to the Klingons (e.g., Lyrans and/or Romulans during the General War) remain on board and can attempt to recapture the ship.

(G6.4) POSSIBILITY OF THE OFFICERS MAINTAINING PARTIAL CONTROL

(G6.40) BOOM CONTROL: The "loyal" members of the crew (mostly officers in the command module at the end of the boom) may have managed to retain control of the bridge area. Determine this by die roll. A "1" or "2" means the boom has been captured by the mutineers. Otherwise, the loyal officers have maintained control of the boom. Certain options (see below) are then open to the officers (who remain under the direction of the Klingon player).

(G6.401) If the officers allow the mutiny to be automatically successful (G6.25), they automatically retain control of the boom.

(G6.402) In the case of a ship with a non-separable boom (e.g., E4), or ships without a specific boom (e.g., bases, freighters, etc.), option (G6.42) is not available but the others are.

(G6.41) SELF-DESTRUCT: The officers may attempt to activate the self-destruction device. This is successful only on a die roll of "1." Refer to rule (D5.53). Self-destruction may be attempted only one time per turn under these circumstances; the crew in the rear hull cannot deactivate the system. If successful, the boom automatically escapes by (D21.5). Note that the mutineers might succeed in deactivating the self-destruct given enough time (G6.434).

(G6.42) SEPARATION: The officers may separate the boom from the rest of the ship and attempt to return to friendly space (C7.3). In fleet actions this becomes important as the boom section may be able to escape independently (G12.0). You are allowed to attempt destruction of the rear hull immediately after separation.

(G6.43) CONTINUATION: If the boom does not separate, and if self-destruction is either not accomplished or was not attempted, then the situation on the ship is unresolved.

(G6.431) The movement of the ship is controlled from the rear hull. [As the mutineers cannot control the ship, this would mean that the ship would stop unless other qualified personnel were brought into that area; see (G6.51).] The two sections (hull and boom) cannot use each other's equipment or power. Loyal boarding parties from other Klingon (or allied) ships may be transported into the boom at the higher non-combat rate (G8.32).

(G6.432) The mutineers in the rear hull cannot enter the boom due to the security doors unless they win a boarding party action initiated by the crew in the boom or under (G6.434).

(G6.433) The boom and rear hull are treated for boarding party combat as two docked ships under (C13.961) although this docking is mechanical and does not require a tractor beam.

(G6.434) No situation can go on indefinitely. The crew in the rear hull would be able to disable the security doors (G6.432) in 100 turns. The crew in the rear hull would be able to disarm the self-destruct device (G6.41) in 50 turns.

(G6.435) If enemy boarding parties are on the mutinous ship, they may be able to avert the self-destruct system under (D7.71), but they will not be able to breach the security doors any faster than the mutinous crew.

NOTE: If using (D16.0) from *Module M*, see the various rules there regarding partial control of a ship.

(G6.5) CAPTURING A MUTINOUS SHIP

Once the mutineers have seized control of the ship, either player may attempt to regain control.

(G6.51) CREW: The non-Klingon player may use transporters (G8.0) or shuttles (J2.0) to place a skeleton command crew on board. This skeleton crew will be able to operate most of the systems on the ship; see (D7.54) and (D7.55). This skeleton crew must consist of at least the specified minimum number of crew units (G9.41) and must be drawn from the opposing player's ships.

(G6.511) Coded safety interlocks make it all but impossible for any non-Klingon to fire the weapons. Exception: See (G22.75).

(G6.512) The Klingons could also transport crew units aboard, but will only regain the loyalty of all surviving units when and if control is reestablished by boarding party combat.

(G6.52) MARINES: Both players may use transporters to attempt to place boarding parties (D7.0) on the ship to capture or defend it. Or see the advanced rules in (D16.0).

(G6.6) OTHER EFFECTS OF MUTINY

(G6.61) MONSTERS: If mutiny occurs in a monster scenario, the ship disengages by (C7.4). It is assumed that an officer is being coerced to operate the navi-computers. The scenario is over at that point.

(G6.62) CASUALTIES: After the mutiny is over, assume that 2/3 of the crew units on board at the time the mutiny began have survived; the remainder died in the fighting.

(G6.7) NOTE ON KLINGON SHIPS

All Klingon ships (except those noted) have security stations. In most cases where a standard ship is modified for Klingon use, this addition will be noted. In other cases, ships of size class 4 with five to fourteen crew units can be assumed to have a single one-box security station. If the size class 4 ship has more than fourteen crew units, two one-box security stations are assumed. Size class 4 ships with fewer than five crew units (freighters, free traders, armed priority transports, etc.) will not have security stations. Units larger than size class four but smaller than size class 2 can be assumed to have two one-box security stations. Units of size class 2 can be assumed to have two two-box security stations. The information in this rule is superseded by formal publication of any unit, e.g., Klingon auxiliary carriers were published in *Module J*. There is no change in BPV; the chance of a mutiny is cost enough.

(G7.0) TRACTOR BEAMS

Tractor beams are magnetic force beams that are used for various purposes such as: to retrieve small objects, to land shuttlecraft, to tow other starships, to prevent drones from striking their targets, etc. Tractors cannot dismember starships.

Note that the tractor rules are written in terms of "ships" (which include bases and PFs). Non-ship units do not have tractor boxes on their SSDs (most do not have SSDs).

(G7.1) GENERAL RULE

(G7.11) SSD: Each TRAC box represents one tractor beam.

(G7.12) ACTIVATION: Tractor beams may only be activated during the Operate Tractors Step of any impulse of a turn.
(G7.121) Once attached, tractor beams can be released under (G7.33).
(G7.122) Once attached, tractor beams can be broken by negative tractor (G7.35), disengagement (G7.28), fighter breakaway (G7.55), destruction of the tractor beam (G7.34), energy reductions due to damage (D22.0), web being cast between the tractoring ship and the tractored object (E12.6), displacement of either unit (G18.672), another unit counter-tractoring the held unit (G7.37) or the tractoring unit (G7.91), break down (C6.545), trying to drag a unit through an atmosphere (G7.323), one or the other being placed in stasis (G16.0), or other means as provided by the rules.
(G7.123) Tractor beams may be used at any speed up to 32. (This refers to the speed of each unit involved, not to their relative speeds or closure/separation rates.)
(G7.124) A tractor beam may continue to be attached into a subsequent turn, but this requires the application of sufficient new power; see (G7.42).
(G7.125) If at any point not involving adjacent units, a tractor link is not valid, even during the middle of a movement segment, it is broken. Examples would be a unit hex 3511 heading A with a tractor link to a unit in 3711. If hex 3610 were a planet (P2.0) or web (G10.0) hex, when the unit moved to hex 3510 the tractor link would be broken. The tractored unit would be released prior to being moved into hex 3410, but its own movement would be canceled, i.e., it would not move on that impulse. See (G10.71) for adjacent ships in web hexes.

(G7.13) SEQUENCE: Each tractor beam on a given ship may only be used once each turn. A given tractor beam cannot be used again (on different or the same objects) on the same turn (or within eight impulses on two consecutive turns) of its link being released or broken.

(G7.14) FIRING ARCS: There are no firing arcs for tractor beams. (They all may be used in any direction.)

(G7.15) ENERGY COST: One unit of energy is required to operate each of a ship's tractor beams. Additional energy may be used to operate the tractor at a longer range (G7.6) or to overcome the effects of negative tractor (G7.35).

Fractional units of power cannot be used for tractors or negative tractor. Only whole units of power can be used for these functions.

(G7.16) MULTIPLE BEAMS: There are various conditions when multiple tractor beams are involved. See also (G7.37).
(G7.161) A ship can generate several tractor beams (one per tractor box on the SSD) and attach each to a different object; for example, a PF tender recovering its PFs (K2.35).
(G7.162) No more than one tractor beam can be used (or attempted) by one ship on another unit at any given time (during any given step of the Sequence of Play). Multiple tractor beams could tractor several objects (one per available beam) at the same point in the sequence of play.
(G7.163) Tractors on some bases can hold more than one unit; see (C13.141).

(G7.2) USES OF TRACTOR BEAMS

There are many uses for tractor beams, some of which are explained below or in the other rules noted below.

Other uses that deserve mention include: gravity landing system (P2.432), raising and lowering objects from a planetary surface (P2.44), ground bases tractoring ships (P2.712).

Some units cannot be tractored; see bases (G7.251), plasma torpedoes (G7.26), and ships in a web (G10.1163). See (C10.52).

(G7.21) TOWING: Tractor beams can be used to tow various objects, including ships. Towing restricts the movement of both the towing ship(s) and the towed unit(s). Towing enemy units can serve a variety of tactical purposes. See (R1.10B) for towing a Fleet Repair Dock.
(G7.211) Ships which have no forward (or reverse) speed use the procedures of (G7.32). To tow moving ships, additional procedures are found in (G7.36).
(G7.212) Being held in a tractor beam imposes various restrictions on the towed ship; see (G7.9).
(G7.213) A tractor beam applied to a friendly unit can have only one effective point of power; exception (G7.37). More power may be required by an auction (G7.37) with an enemy ship for control of a friendly unit.
(G7.214) Under the friendly fire rules (D1.5), a unit cannot tractor a friendly unit if doing so would cause the destruction of that unit except as allowed therein.

(G7.22) SHUTTLES: Tractor beams can be used to land shuttles; see (J1.62). Tractor beams can also be used to drag aboard (G7.8) or to destroy (G7.54) enemy shuttles. While shuttles can be dragged by ships, shuttles can never tow ships.

(G7.23) DOCKING: Tractors are used for various means and types of docking. See:
- ships (friendly or enemy) docking to ships (C13.9). Note particularly the restrictions of (C13.96).
- ships docking to or inside bases (C13.0).
- mech-links for PFs and shuttles (K2.2).

(G7.24) TERRAIN: Various types of terrain have various effects on tractor beams.
(G7.241) Planets (P2.0) cannot be tractor beamed, but large meteors (SH3.0) can be. There are exceptions (some of which require the ship to be at Speed Zero) in the cases of the gravity landing system (P2.432); raising objects from and lowering them to a planetary surface (P2.44); bases on planets (P2.712); or using rotation to pull your ship toward a planet, moon, or large asteroid (G7.252). A planet or asteroid held in a tractor for this purpose (and all of the units on it) is not under the restrictions or penalties of (G7.9).
(G7.242) Asteroid counters cannot be towed by tractor beam (they represent fields of hundreds of asteroids; you could not, within the time of a scenario, move enough of them to create a new asteroid hex or clear out an existing one).

(G7.25) BASES: Bases with active positional stabilizers (G29.0) can be tractored by a moving ship; see below. (All bases in *Basic Set* have active positional stabilizers.) In *Advanced Missions*; (C13.11) allows ships to dock with a base using tractor beams while moving at a speed of one or zero.
(G7.251) If a moving ship attaches a tractor beam to a base with positional stabilizers, it is resolved under (G7.36); the base has a movement cost of infinity (giving the ship a pseudo speed of zero). The ship is still "moving" at the original speed and does not "stop" for purposes of WWs, acceleration, etc. See (C2.4) for speed definitions.
(G7.252) While a ship could not tow a base with a tractor beam, a non-moving ship could establish a tractor beam to a base and use the beam to pull itself to the base at a speed of one hex per turn by using the rotation system (G7.7). A ship could also use this system to pull itself to a planet or large asteroid (G7.241). Once you pull your ship to the planet, it will have to land by one of the procedures in (P2.4).
(G7.253) A base with positional stabilizers (G29.0) can tractor a moving (or non-moving) ship (within the limits of other rules). The situation is resolved under (G7.36); the base has an infinite movement cost, so the ship will have a pseudo speed of zero (while still retaining its higher practical speed and maneuver rate). See (C2.4) for definitions of speed.

(G7.254) Bases with active positional stabilizers are exempt from the conditions of (G7.9); see (G29.21).
(G7.255) A ship cannot tractor another unit that is docked to a base. A ship docked to a base cannot tractor anything except the base (C13.48).
(G7.256) Unless specifically designated in a particular unit description or scenario, all bases have active positional stabilizers (G29.0) and are covered in the preceding subsections of (G7.25). All bases in *Basic Set* have active positional stabilizers. Only in the extremely rare circumstance in which a base has been designated as being without active positional stabilizers, it is treated (for the purposes of the tractor rules) as a ship moving at a speed of zero using (G7.32). Its movement cost is given in Annex #7L (add the cost of the base and all of the modules and other units docked to it). Bases without active positional stabilizers are not subject to (G7.251) through (G7.255). A base which is operational on a planet, small moon, planetoid, or large asteroid is always treated as if it has active positional stabilizers.

(G7.26) SEEKING WEAPONS: Tractor beams cannot be used to hold plasma torpedoes. For the effects of tractor beams on drones and seeking shuttles, see (G7.52).

(G7.27) FORCED CONTACT: Objects held in a tractor beam cannot be forced into contact with another unit.

Exceptions: docking (C13.0) and landing shuttles (G7.8), and those noted below.
(G7.271) A tractor beam cannot be used to rotate, move, tow, or push mines. However, see minesweeping (M8.1). If a unit has a tractor applied to a mine, and the ship moves, the tractor link simply breaks and the mine is unaffected.
(G7.272) A tractor beam from a friendly ship cannot be used to tow or push a friendly seeking weapon; see (G7.522). Note that as even ballistically targeted weapons will go inert if tractored by a friendly unit, (F4.5) does not form an exception to this rule.
(G7.273) On a fixed map, a tractor cannot be used to force a ship off of the map. In a tournament arena (P17.0), a tractor could be used to force a unit into the barrier, at which point the tractor link is broken. If a ship attempts to force or drag another ship off a fixed map, the non-tractoring ship is released from the tractor at the map edge unless special scenario rules say otherwise. An enemy ship cannot be towed off of a fixed map unless it has been captured. The towing ship must leave with the towed ship or the tractor link is deemed broken.
(G7.274) If a unit is connected to another unit by a tractor beam, and either unit attempts (voluntarily or not) to enter a planet or moon hex, the tractor beam is broken by gravitational effects before the unit enters the hex. (Large asteroids and meteors are ignored for this purpose.) If the unit attempting to enter the planet hex is a seeking weapon (including an unmanned or seeking shuttle), this rule is ignored. A seeking weapon can be forced into a planetary surface (resulting in its destruction without detonating the warhead).
(G7.275) A unit could be forced to enter an asteroid (P3.0) or ring (P2.223) hex while linked to another unit by a tractor beam and moving under the terms of (G7.32) or (G7.36). Use the sum of the two pseudo-speeds at the instant of contact.
(G7.276) See (G7.75) in the case of rotations. See (G23.573) in the case of contact with an ESG field.
(G7.277) A unit can be forced into a web (G10.71), web can break a tractor link if it is between the tractoring unit and the tractored unit.

(G7.28) DISENGAGEMENT: When a ship disengages by acceleration (C7.1), all tractor beams generated by it or attached to it are automatically broken. Note that a ship's disengagement speed is based on the energy applied to its movement (i.e., practical speed). The fact that the ship may be slowed down by its tractor link (even to an effective speed of zero in the case of a base tractoring a ship) has no bearing on its ability to disengage.

See (C7.4) for fixed map disengagement.

(G7.29) MONSTERS: Living monsters (i.e., those that are creatures rather than robot ships) cannot be tractored; exception (S6.1) Result #2. See Annex #12. Any exceptions will be noted.

(G7.3) OPERATIONS

Gaining a tractor beam hold on another ship or object is referred to as gaining a tractor link to the ship or object. This may be attempted during the Operate Tractors Step of any impulse (G7.12), but if a tractor link is made, it must be re-established at the start of each turn [see (G7.42) below] or it is lost. It is not mandatory to attempt to re-establish a tractor link.

Once a tractor link is established, it can be broken by various means listed in (G7.122). It cannot be broken by the application of speed, except as per (G7.28). It could be voluntarily released (G7.33) by the ship operating it.

(G7.31) RANGE: Tractor beams may only be used against ships or other objects in adjacent hexes or in the same hex; exception, see (G7.6). Tractor beams always use the true range, not the effective range (D1.4).

(G7.32) TOWING A NON-MOVING SHIP: This section refers to towing in general, specifically non-moving ships and other objects (those which can be both linked to and moved by a tractor beam). For additional requirements involving towing moving ships, see (G7.36).

The towing ship is considered to be the moving ship, regardless of which ship is generating the tractor link.

If a tractor link is made, the linked objects will follow the towing ship (maintaining a parallel course, moving in the same direction at the same time) for as long as the tractor link is maintained. Towing via tractor beam places a considerable strain on the ship. This is reflected by these rules. Note that the facing of the non-moving unit is only changed under (G7.322) and not as a result of any movement by the towing unit.

See (G7.9) for additional information on a ship held in a tractor beam.
(G7.321) When towing a tractor-linked ship or ships, the movement cost per hex is equal to the cost of all ships involved. For example, a Fed DN (1+1/2) towing a scout (1/2) and a CA (1) would have to pay three movement points per hex. When being towed by a friendly ship, the towed ship does not operate its engines for movement [if it does, it is handled under (G7.36) below]; exception (G10.56). See Annex #7L for towing costs of various units which do not have assigned movement costs.
(G7.322) For the purposes of this rule, a non-moving ship may expend movement points allocated for Tactical Maneuvers (C5.0) or HETs (C6.0); however, see (G7.3222) for breakdown.

(G7.3221) Tactical Maneuvers and High Energy Turns by one ship do not affect the other ship or the pair, regardless of which is doing the towing.

(G7.3222) The HET breakdown number (C6.51) is decreased by one for every ship (not including PFs or non-ship units) towed (i.e., held in a tractor beam); e.g., a rating of 4-6 becomes 3-6. A ship being towed (i.e., being held, even if it is the only one actually moving) is not subject to this penalty unless it is also tractoring a ship. The movement or non-movement of the ships is irrelevant; it is the question of which ship is generating the tractor beam that decides which is under the penalty. This applies only while actually linked by tractor; not after the tractor is released or broken.

(G7.3223) If a breakdown occurs, the tractor link is broken and cannot be restored on the current turn. In addition to the damage resulting from the breakdown, the towing ship takes one point of internal damage, distributed directly by the DAC (D4.21), for each point of its practical speed (C2.411). For the remainder of the turn, the towed ship does not move, while the towing ship automatically tumbles (C6.55). Shuttles, fighters, and PFs do not count for purposes of this rule and are not affected by it.

(G7.3224) If tumbling occurs, the tumbling ship moves at its own effective speed.

(G7.323) Atmospheres impose special restrictions on tractor links. A tractor link cannot be maintained if either the towing unit or the towed unit move through an atmosphere at an effective speed (C2.46) greater than one. If such an event is about to occur, the tractor link is immediately broken prior to the anticipated movement, at the beginning of the appropriate Movement Step (this is outside the normal Sequence of Play). An object may not be rotated through more than one hex of atmosphere in a turn, even by (J1.621); see (G7.7). If the first hex entered (by towing) during the turn is outside the atmosphere, there is no restriction. An object must be lifted from the surface (P2.44) before "towing" can begin.
(G7.324) See rule (C2.46) to determine the Turn Mode and acceleration limits. Acceleration limits are based on practical speed (C2.21), not pseudo-speed (C2.413).

(G7.325) There is no additional cost in movement points expended by the moving ship for towing shuttles, fighters, or drones or for docked PFs. There is an exception when towing a fleet repair dock; see (R1.10B3). Shuttles, fighters, and drones cannot tow ships.
(G7.326) The courses are parallel in relation to the map grid, not in relation to each other. If a ship that is holding an object in a tractor changes facing, the held object does not "swing" through a 60° arc to maintain the same orientation. Ships directly docked to each other use the procedure in (C13.922).

(G7.33) RELEASING A TRACTOR BEAM: If a tractor beam is attached to an object, it can be released voluntarily by the owning player during the Operate Tractors Step of any impulse.
(G7.331) A unit released from a tractor beam operates normally for the remainder of the turn, moving with a speed equal to that with which it would have had without the beam [i.e., at its "legal speed plot (C1.341) which may include speed changes under (C12.0)]. The turn and sideslip mode records of a ship are continuous whether or not it is held in a tractor beam (G7.93). The actual Turn Mode requirement may change with conditions, but the accumulation of hexes is unaffected.
(G7.332) If a tractor link is voluntarily released, it cannot be re-established by the releasing ship between those two units within 1/4-turn (this applies to all of the tractors on the releasing ship, not just to the tractor that released the tractored unit). The released ship could tractor the releasing ship. Not maintaining a tractor link during an Energy Allocation Phase by not powering it counts as voluntary release, although the specific tractor would be available to tractor some other unit during the turn (or even the original unit) after eight impulses. Releasing a tractor under (D22.13) is also considered a voluntary release even though it may be out of the player's hands.
(G7.333) If a ship which is using a tractor beam launches a wild weasel, it must involuntarily release the tractor beams at the time the weasel is launched in the Shuttle Functions Stage. This would allow a ship released from the dropped tractor to launch its own WW on the same impulse. See (J3.452) for details, conditions, and exceptions. Note that while this rule allows the launching of a wild weasel in response to a tractoring ship dropping its tractor to launch its own weasel, it does not allow the tractored ship to launch any other shuttles or fighters in response to the dropped tractor.
(G7.334) A tractor beam may be dropped during the Energy Allocation Phase; see (G7.42).
(G7.335) Tractor beams may also be released as a result of the destruction of the tractor box on the SSD (G7.34).
(G7.336) Certain interactions with planetary bodies may cause the immediate involuntary release of a tractor beam. See (G7.274) and (G7.323).
(G7.337) Tractor links to a unit that breaks down are not broken unless that ship tumbles (C6.553), or a towed ship suffers a breakdown (G7.3223).

(G7.34) DESTRUCTION OF TRACTOR BEAMS: The destruction of tractor beam boxes on the SSD may result in existing tractor links being broken.
(G7.341) A player can assign existing tractor links to any of the tractor beam boxes on his SSD, but once assigned the specific link and the specific box on the SSD are "associated". Which link is associated to which box is known to the opponent at Tactical Intelligence Level E (always known if TacIntel is not in use). The opponent must request the data, but he must be informed of any subsequent changes in data previously requested if still at Level E or better.
(G7.342) Existing tractor links can be transferred between SSD boxes only during the Operate Tractors Step of the Sequence of Play. Transfer is made by adjusting records.
(G7.343) If a given tractor beam is destroyed, the associated tractor link is immediately released and the energy in it is lost. Since most damage (once designated by the DAC) is assigned to specific boxes by the owner of the target unit, that player can select which tractor box to give up based on his view of the priority of the associated tractor links. However, as hit-and-run raids (D7.8) can attack specific systems, this is not always the case.
(G7.344) Any tractor beam on the ship can perform any function (e.g., the nose tractors on a Klingon D7 can be used to land shuttles in the bay). Any exceptions are in the ship descriptions for the relevant units (e.g., the tractor beams on a starbase module can only dock units in or to that module).
(G7.345) Destruction of a tractor beam does not force units to drop "hard docked" units such as tug pods formally attached to a tug (G14.4) or PFs held in mech-links (K2.3).

(G7.35) NEGATIVE TRACTOR BEAM: In the event that a tractor is established between two opposing ships, the tractored ship may, but is not required to, attempt to break the tractor. This can be done by applying power to "negative tractor beam" or other means listed in (G7.122). The primary method of breaking a tractor beam is to apply power to negative tractor.
(G7.351) During the Energy Allocation Phase, energy allocated to tractor beams is not designated as intended for "positive" or "negative" use. This designation is made only at the time each point of power is actually used, but once made it cannot be changed and remains in effect until the end of the turn unless dropped (G7.358) or released (G7.33). Note that tractor energy is lost when the tractor is released and cannot be used again, see also (G7.414).

A unit with energy allocated to tractors can designate this energy for use as negative tractor at any point, including the point at which an enemy unit tractors the unit. In such case, the negative tractor energy takes effect immediately and the enemy tractor beam, if fully cancelled, will never take effect.

Tractor energy allocated as part of an auction is designated as positive or negative at that point.

Reserve power allocated to tractors is designated as being negative or positive at the point at which it is used. Reserve power which is released as allocated power at the end of an impulse without being immediately used (H7.1) is treated as allocated but undesignated power from that point.
(G7.352) Each point of power applied to "negative tractor" (whether allocated or reserve) cancels one point of effective power of a tractor beam applied to the unit using negative tractor. Note the term "effective power." A ship three hexes away would be spending three points of power to generate one point of effective tractor beam (G7.6), and this point of effective tractor energy (produced by three energy points) would be cancelled by one energy point committed to negative tractor.
(G7.353) Power applied to negative tractor lasts for the entire turn (or for the remainder of the turn in the case of that from reserve power) and is used to counter any attempt to tractor the ship for that time, whether by the same or a different unit. Note that negative tractor will block friendly as well as enemy tractor links.
(G7.354) Negative tractor beam is not a special device, but is designed into the hull of the ship. Negative tractor beam does not require or use a tractor beam box on the SSD.
(G7.355) Shuttles (which of course includes fighters), drones, and non-unit bodies (e.g., asteroids, planets, etc.) can never use negative tractor. (Neither can plasma torpedoes, but as they cannot be tractored, this situation is meaningless.)
(G7.356) Fractional points of power cannot be used for negative tractor beam purposes. See (G7.15).
(G7.357) Negative tractor beam does not require active fire control (D6.6) and will not void a cloak (G13.432) or wild weasel (J3.452).
(G7.358) Negative tractor energy can be voluntarily cancelled (as releasing a tractor beam), but if this is done, the energy is lost. Part of the energy can be cancelled and the rest retained.

(G7.359) TACTICAL EXAMPLE

A Klingon D6 successfully wins a tractor auction with a Kzinti BC. The BC had tried to anchor (G7.98) the D6 with a tractor beam so it could be destroyed with a massive drone attack; with a tractor in place, the D6 could not launch a WW and would have been destroyed. The D6 has 23 points of negative tractor (a very high amount, but what it took to win the auction), but is moving at Speed 4 due to the lack of power to move faster and to preserve the WW option.

A Klingon C8 is nearby and wants to tow the D6 out of range, but cannot attach a tractor beam due to the massive amount of negative tractor. The D6 drops twenty points of its negative tractor (the C8 overcomes the remaining three) and accepts the tow, but the C8 releases the D6 some eleven impulses later (now that the D6 is out of danger).

Later during that same turn, a Kzinti CV moves into a position one hex from the D6 and tries to tractor the D6. The CV has six points of energy allocated to tractors, and while it could have tractored the D6 at Range 2, this would have produced only three effective points of tractor energy and would have been negated by

the remaining negative tractor. The D6 cannot use any of the twenty points of negative tractor energy that it voluntarily cancelled.

With very little energy left (the three remaining negative points and two points of battery power were all that was available), the D6 is helpless to resist a subsequent anchor (G7.98) and is destroyed by twelve type-IV drones. To add insult to injury, the crew cannot escape (D21.41) in the shuttlecraft as both had been prepared as wild weasels for defense against drones. The boom separates (G12.01) and escapes (D21.43), so the officers survived.

Had the officers been paying attention, they could have launched a WW when the CV approached, protecting themselves from being tractored (at least until the CV destroyed the WW and the explosion faded, by which time perhaps the C8 would have come back).

(G7.36) TRACTORING A MOVING SHIP: These procedures are used to resolve movement when two moving ships are linked by an active tractor beam. These rules are additional procedures to those in (G7.32). They apply when both ships in a tractored pair are generating movement points. All restrictions and conditions of (G7.32) apply to ships moving under (G7.36) except where noted.

See also (G7.9) and (G7.3223) for additional restrictions.

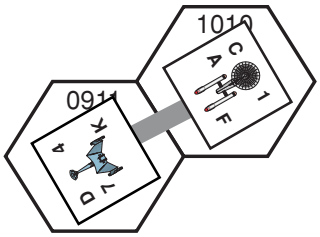
The procedure is used whenever the two ships are linked and for as long as they remain linked. If this movement results in any condition that would break the tractor link, the link is broken.

A-Determine the total movement cost of both ships.

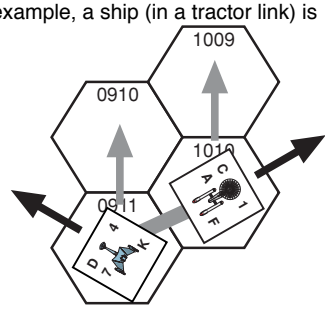
B-Determine the speed that each ship would move assuming its current energy allocated to movement and the total movement cost of both ships (drop all fractional points of movement). However, the impulse power of the smaller ship is ignored. (If the two ships are the same size class, the one with the higher movement cost is considered larger, if both have the same movement cost, ignore all impulse power unless the two ships agree for one of them to use its impulse power. If only one ship applies impulse power, that power is used by that ship.) This is known as its pseudo-speed (C2.46). The pseudo speed cannot be more than fifteen (sixteen if impulse is available) if two movement cost one ships were involved because no ship can generate more than 30 points of movement from warp energy. If the movement costs were different, one would have a higher pseudo-speed than the other. In the case of ships with plotted (or making unplotted) speed changes, assume that the current speed is continued for the entire turn. When a unit announces that a mid-turn speed change is going to take effect, the pseudo speed is then recalculated based on the new speed and again assumes that that speed was used for the entire turn from that point.

C-Each ship moves both ships whenever its movement is called for by the impulse chart for its pseudo-speed and can turn when its Turn Mode is satisfied at that pseudo-speed. If both ships are scheduled to move in the same impulse, this is resolved as follows:

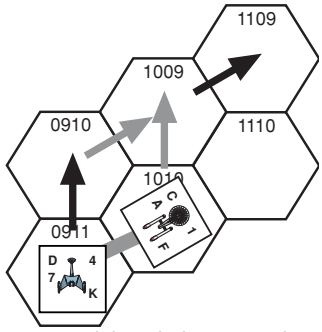
1-If the result of both ships' movement is that both ships return to the hexes where they began the impulse, neither moves.



2-If the result is that each ship moves one hex, they move directly to that hex. For example, a ship (in a tractor link) is in hex 1010. It wants to move in direction B, but the other ship wants to move in direction F. The result is to move one hex in direction A. The ship does not move to hex 1110 (or 0910) on its way to 1009, but moves directly there.



3-If the result is that each ship moves two hexes, the larger ship (by size class; then by movement cost if the same size class) conducts its movement first, then the other ship moves on the next impulse. [If they are the same size, use the Order of Precedence in (C1.313), using the pseudo-speed of each ship. If that does not resolve the matter, both ship captains write down their intended direction of movement, then toss a coin or roll a die to determine which ship reveals and conducts its movement first. This random procedure is used even if the two ships are allies and want one to move first, i.e., the decision is involuntary.] For example, a ship in hex 1010 wants to move in direction B, but a larger ship linked to it wants to move in direction A. The ship is then moved one hex in direction A (to 1009), then one in direction B (to 1109) on the next impulse. The movement of the second ship must be executed as originally stated on the subsequent impulse, and cannot be changed even if there are VERY strong tactical reasons that indicate that he should change it.



If the ship whose movement was delayed plans to make a turn, that turn takes place when its delayed movement takes place. If the tractor is released before the delayed movement takes place, the ship is not required to execute the previously planned turn (although it will lose the delayed movement), but can maneuver normally within the limits of its turn and side slip modes.

If this occurs on Impulse #32, the second ship's movement takes place on Impulse #1 of the subsequent turn (unless the link is not maintained). Ships cannot move more than one hex in one impulse. In this case, the larger ship moves both ships on the current impulse, and the second hex of movement (caused by the smaller Fed DD) is conducted on the next impulse. (If both are the same size, toss a coin.) If further movement is scheduled for that next impulse, that movement is delayed one impulse so that the movement delayed from the previous impulse can be conducted sequentially. (This can continue indefinitely although the mathematics will make it even up once per turn. All movement points are conducted in the order they are earned, even if an impulse late.) If the tractor link is released before an owed movement point is conducted, it is simply lost. Both ships will have their Turn Modes and side slip modes set by their previous movements (G7.36-2).

The movement delayed until Impulse #1 of the following turn is considered to be at the same pseudo-speed as the movement on Impulse #32 of the preceding turn to resolve any movement related functions, e.g., asteroids (P3.2), death dragging shuttles [(G7.54) & (G7.9433)], etc. This is irrespective of any change in the speeds of the tractored units in the interim Energy Allocation Phase.

Two ships have the same movement cost and Turn Mode and are moving at the same speed in the same direction. One ship tractors the other and, after moving together for one impulse, releases the tractor. The ship that actually made the movement (as determined above) would have actually moved one hex for purposes of its turn and side slip modes. The other ship would not have moved, and indeed loses the hex of movement it would have had if the tractor link had been maintained.

If two ships are tractored on Impulse #32, both perform any HET maneuvers during Impulse #32 even if the ship in question is the one that will not conduct its movement until Impulse #1 of the next turn. The HETs would be preformed under the Order or Precedence (C1.313), i.e., the slower of the two ships would have to execute its HET first.

If two units are held by a web hex, whether both are in the web or only one is, and both are scheduled to move on the impulse the web dissipates (E12.26), there is no hold over

movement on the following impulse unless the combined pseudo speeds of the two ships was greater than the strength of the web.

EXAMPLE OF MOVEMENT BY TRACTORED SHIP

A Klingon F5 (movement cost 1/2) tractors a Federation DN (movement cost 1+1/2). The F5 has allocated 5.5 units of warp energy and one unit of impulse energy to movement, which would call for a speed of twelve. The DN has allocated twenty units of warp energy and one unit of impulse energy, which would call for a speed of fourteen. The total movement cost of the two ships is two energy units per hex. The F5 thus has a pseudo-speed of two hexes per turn (5.5 divided by two dropping all fractions and ignoring its impulse power). The DN has a pseudo-speed of eleven (twenty divided by two plus the one point for the impulse engines). The tractor link was established on Impulse #14. On Impulse #15, a ship with a speed of eleven would move, so the Federation player would move both ships one hex in the direction that the DN was facing (or was turned to face within the restrictions of its Turn Mode). During this movement, the F5 will retain its facing. On Impulse #16, a ship with a speed of two moves, so the Klingon player moves both ships. In this case, the F5 captain must apparently be trying to slow down the DN so that other Klingon ships can engage it. If not, the DN captain will probably tow him behind some convenient asteroid and beat the daylights out of him! (But the DN captain must be careful, or the F5 captain will steer him into the asteroid field!)

EXAMPLE OF DELAYED MOVEMENT:

Impulse #9: Two cruisers, same facing and Turn Mode both moving Speed 20, tractor each other (pseudo Speed 10).

Impulse #10, both are scheduled to move. Cruiser #1 designates a turn left while Cruiser #2 designates it is going straight, resulting in two net hexes.

Since they have the exact same movement precedence, a die is rolled, indicating Cruiser #1 moves first, and Cruiser #2 is delayed.

After the move is completed, the cruisers both change to Speed 12 (pseudo Speed 6) and both are scheduled to move on Impulse #11. Cruiser #1 designates that it will move straight, and Cruiser #2 designates that it will turn left. Cruiser #1 again wins the die roll, and Cruiser #2 accumulates a second stored movement point. Cruiser #2's accumulated movement points will be resolved on Impulses #12 and #13.

(G7.37) MULTI-TRACTOR ENGAGEMENTS: Various conditions arise when two or more ships are linked by tractor. Note that these complications are not generally created by non-ship units.

(G7.371) In the event that two or more ships tractor a single object (e.g., ship, shuttle, asteroid, etc.), an auction (G7.42) is conducted and the tractor beam with the most effective power (as adjusted for range) establishes a link on the object; the other ships immediately release their tractors. This auction is conducted before (and independently of) conducting any auction against negative tractor energy generated by the tractored object. All positive tractor power used by the winner remains and applies to the further resolution. Tractor power bid by other units is lost. In the event of a tie, both (or all) tractor attempts on the object fail and the energy is lost. Note that once this auction is over, another would be held immediately between the winning-tractoring unit (assuming there is one) and the tractored unit (which could try to break the tractor with negative tractor).

(G7.372) Under some circumstances, a unit held in a tractor cannot tractor other units (G7.91). Because of this, one way to force a ship to release a tractor is to tractor the tractoring ship.

(G7.373) In the event that three or more ships are linked by tractors, only two of them can produce pseudo-speed. Ignore any unit not generating practical speed. The pseudo speed of the combination is calculated based on the combined movement costs of all the units in the tractor link. If three or more units are generating movement points, ignore the points generated by the smaller units and use the pseudo-speeds of the two largest units. (Largest is defined first by size class and then by movement cost.) If there are three or more "largest" units, use one from each "side" of the battle (assuming there are two sides), with the owners selecting the ships to be used. If the largest ships are all on the same side, the owner selects which to use. If the largest ships are from three or more sides, each of the ships "tied" for this purpose rolls one die, with the ships having the two highest die rolls being used. This decision procedure is repeated whenever a ship joins or leaves the linked group and at the start of each turn. Each ship calculates its pseudo-speed for its own turns and facing changes based on its own generated movement power and the total movement cost, even though only two ships can affect the movement of several ships linked by tractors.

(G7.374) Tractors used to hold two units in a docked configuration (C13.0) are exempt from all of these provisions. The two docked units are considered a single unit for this purpose. It is not possible to use a tractor beam to forcibly undock another unit (e.g., a ship from a base, a PF from a mech-link, a module from a base, a pod from a tug, a shuttle or fighter from a balcony or mech-link, etc.). See (C13.921) in the case of two ships docked to each other.

(G7.375) EXAMPLE: A Federation CA (size class 3) establishes a tractor link on a Klingon F5 (size class 4). Later a Klingon D7 (size class 3) tractors the CA in an attempt to slow it down; the CA has no power to negate the D7's tractor, so the D7 successfully establishes a link. At this point the CA is not forced to release its hold on the F5 because the D7 is not larger than the CA and because the D7 is an enemy ship (G7.91). The CA chooses (perhaps to keep the F5 from doing more mischief) to maintain its link on the F5. The movement points generated by the F5 (the smallest ship among the three linked units) do not count for purposes of (G7.36).

Later a Klingon C8 (size class 2), capable of generating the same effective positive tractor power as the D7, declares it will establish a tractor link on the Federation CA. Under (G7.371), the C8 is required to conduct an auction with the D7 to decide which ship maintains a tractor link; if an auction was held and neither ship won, both tractor links would be lost. Since the two ships are on the same side, they simply agree that the C8 will establish its link and the D7 voluntarily drops its link.

Furthermore, since the C8 has a larger size class than the CA, per (G7.91) the CA is now required to immediately release its tractor on the F5. The Federation CA can now only tractor and fire at the Klingon C8 (although the CA can also fire at other non-ship units).

(G7.4) TRACTORING A STARSHIP

(G7.41) CONDITIONS: The conditions for tractoring a starship (enemy or friendly) are as follows:

A. The tractoring ship must be in an adjacent hex or the same hex as its target [see (G7.6) for extended range] and have an operable tractor beam. It must have a lock-on to the unit that is the target of the tractor attempt (unless they are already docked).

B. The tractoring ship must allocate power to that tractor beam. Reserve power can be used to initiate or reinforce a tractor link.

C. The starship being tractored may have allocated power to tractors and could use this for "negative tractor beam" (G7.35). (If it did not have power allocated for negative tractor on the first turn of being tractored, it will have the opportunity to allocate power to this purpose on the next turn when the tractor must be re-established.) The tractoring starship must have allocated an amount of power equal to the amount allocated to negative tractor beam, plus one effective point [this may take more actual power at longer range (G7.6)] in order to maintain the tractor. Note that the effective strength of the tractor beam (as adjusted for range) must EXCEED, not merely equal, the strength of the negative tractor force applied.

NOTE: A ship or object that has been tractored is NOT considered to be captured for victory purposes until it is actually boarded and captured by (D7.0) or (D16.0). This may extend the scenario beyond the normal end point.

(G7.411) Reserve power (H7.2) can be used for negative tractor beam and to reinforce a tractor beam.

(G7.412) A tractor link cannot be established without a lock-on. However, should a tractor link exist between two ships, both automatically have a lock-on to each other. This assumes that each ship has active fire control, even if it did not obtain a lock-on previously, and that the period for activation of fire control (D6.633) has expired. If not, a ship without AFC has no lock-on. See also (D6.11).

(G7.413) Movement is governed by (G7.32) and possibly also by (G7.36).

(G7.414) If a tractor link is established during a turn, an immediate auction (G7.42) is conducted using reserve and allocated power. The player establishing the link is not required to reveal how much power he has allocated until it is used in bidding. Note, however, that negative tractor energy can be reused on the same turn against later links, but active tractor energy is lost once the link is broken or released. If the link survives the auction, the tractored ship can

reopen the bidding on any subsequent impulse if power is available. A new auction is also required at the start of each turn, during Energy Allocation.
(G7.415) Electronic warfare can prevent a tractor link from being established; see (D6.37).

(G7.42) TRACTOR AUCTIONS: If a tractor beam was established during a prior turn, then the two ships involved must determine if it is broken at the start of each turn. This is done by an auction during the Energy Allocation Phase. Auctions may also be held during a turn. Note that the player who is maintaining the tractor must announce his intention to either maintain or drop the tractor link. If he announces that he will not maintain it, there is no auction.
(G7.421) The tractored ship announces how many points of energy it is applying to "negative tractor beam." The capturing ship then announces whether or not it will match this amount. If not, the tractor is broken; if yes, the tractored ship may then increase the amount of power applied to negative tractor beam. The auction continues in this manner until either the tractor is broken (G7.122) or the tractored ship is unable or unwilling to apply more power. Remember that negative tractor can only be in whole units of energy and that positive tractor must be in whole units of effective energy (which may require multiple units of actual energy at longer range).
(G7.422) Whatever the result, both ships are required to expend the energy they committed themselves to expend in the auction. This is defined/explained below:

(G7.4221) If the tractoring ship loses the auction, the power it committed is lost irrevocably, and even if the tractor is re-attached later with reserve power, this energy cannot be reused.
(G7.4222) The power applied to negative tractor by the tractored ship remains in effect until the end of the turn regardless of the outcome of the auction. If the tractored ship lost the auction, it can reopen the bidding later (with available reserve or allocated power), in which case the power it committed to negate the tractor remains available for use unless cancelled (G7.358). Whether winning or not, the negative tractor energy cannot be used for any other purpose.

(G7.423) Auctions can also be held (entirely with positive tractor energy) between two ships trying to tractor a third object (G7.37).
(G7.424) In the event that several ships are involved, or that two ships may have tractored each other, or that two ships may be tractoring a third object (or any/all of the above), each ship secretly records its negative tractor energy, then simultaneously announces it. All ships trying to maintain tractors then secretly record which tractor links they are generating will be reinforced with additional energy to match this negative tractor energy (or positive tractor energy to the object by a third ship). The process is then repeated until all situations are resolved (G7.421).

(G7.5) TRACTORING SHUTTLES AND DRONES

(G7.51) CONDITIONS: The conditions for capturing an enemy shuttle or drone are as follows:

A. The capturing ship must be in the same or adjacent hex [see (G7.6) for longer range] and have an operable tractor beam. It must have a lock-on to the unit to be tractored.

B. The capturing ship must allocate power to that tractor beam appropriate to the range (G7.6). This requires one point of effective tractor energy (two points of energy at Range 2, three points of energy at Range 3).

The drone or shuttle could subsequently be rotated (G7.7); a shuttle could be pulled into the shuttle bay (G7.8). Shuttles and drones change facing whenever they would normally "move"; they do not have a pseudo-speed.

(G7.52) SEEKING WEAPONS: Plasma torpedoes cannot be held by a tractor beam (G7.26). Drones (and seeking shuttles) held in tractor beams are treated as follows.
(G7.521) If a drone is tractored and held until its fuel is exhausted, it is removed from play (FD1.71).
(G7.522) If a drone is held in a tractor beam by a ship on the same side as the ship that fired/launched it, it loses its tracking and is removed from the board. (Captured ships are on the side that captured them.) Enemy seeking weapons do not lose tracking. Note that the application of any tractor energy at all will cause the seeking weapon to go inert, the fact that you were trying to wrest it from an enemy tractor and never actually held it has no effect.
(G7.523) Shuttles used as seeking weapons are treated as drones but are not removed from the board until destroyed. A suicide shuttle tractored by a friendly ship loses tracking and is treated as per (J2.227). A scatter-pack tractored by a friendly ship loses tracking and is treated as per (FD7.46). In any case, the shuttle might be destroyed if towed at high speed; see (G7.54).
(G7.524) These conditions apply whether or not the ship which tractored the drone is the target of the drone.
(G7.525) If a seeking weapon is moved into the hex of its target (or vice versa) by rotation or towing (and the weapon has not become inert or destroyed), impact occurs at that point; see (F2.312).

(G7.53) DRONE DESTRUCTION: Drones cannot be destroyed merely by towing them with a tractor beam. They could be destroyed by forcing them into contact with a terrain feature (G7.274) or an ESG field (G23.573) among other things.

(G7.54) SHUTTLE DESTRUCTION: If a shuttle is held in a tractor beam by a ship moving faster [Effective Speed (C2.45)] than twice the maximum rated speed of the shuttle (ignoring booster packs), the shuttle is destroyed. This is known as "death dragging" by shuttle pilots.

See (G7.9433) for seeking shuttles.
See (J1.212) for speed definitions.

Note that as ships move before shuttles and seeking weapons in the Order of Precedence (C1.313), a suicide shuttle carried along in a tractor tunnel (G7.9433) might be death-dragged before it reached its target. It is also possible that a seeking shuttle launched into a tractor tunnel (G7.9432) might hit its target before it can be death-dragged. Regardless of the speed of a given drone, it cannot be death-dragged as a shuttle can.

Note that shuttles are death-dragged as a result of the "effective speed". This means that if two ships tractored together are moving in opposite directions or directly towards each other they cancel some movement under the exception in (C2.451), i.e., the lesser pseudo speed is subtracted from the larger pseudo speed to determine the actual effective speed. Note that if two units moving directly towards or directly away from each other have the same pseudo speeds, their effective speed is zero.
(G7.541) The shuttle is not destroyed simply by being held. When the ship moves (and by doing so attempts to drag the shuttle along), the shuttle is destroyed in the hex where it was before the movement. The shuttle is destroyed even if the ship "moves" but does not leave its hex due to (G7.36-C1). Note that this means that a ship moving Speed 32 could tractor a shuttle on Impulse #32 of a turn, and adopt a speed slow enough not to death-drag it at the start of the following turn. This would also apply if a ship used a mid-turn speed change to reduce its speed on the impulse following the one it tractored a shuttle during a turn. The shuttle would only be death-dragged if the ship actually conducted a hex of movement at a speed high enough to destroy the shuttle.
(G7.542) A crippled shuttle is destroyed if towed at faster than twice its reduced speed (i.e., faster than its undamaged maximum speed).
(G7.543) An uncrippled fighter must have an opportunity to make an HET breakaway maneuver (G7.55) before it can be destroyed. If the ship is scheduled to move, the fighter can make the breakaway out of the normal Order of Precedence (C1.313).
(G7.544) Sublight shuttles (R4.F0) are death-dragged at Speed 3, i.e., "more than twice their maximum rated speed" of one. Crippled sublight shuttles are death dragged at Speed 2, i.e., faster than their undamaged maximum speed.

(G7.55) FIGHTER BREAKING TRACTOR: An uncrippled fighter can break a tractor beam and avoid "death dragging" by performing an HET (J4.12) to face directly away from the tractoring unit (even if already facing in that direction) and moving in that direction at its maximum possible speed (it does not have to use warp packs, and can accelerate within legal limits immediately). The tractor is then broken, but the fighter cannot turn until it has traveled at least three hexes in that direction (it can sideslip). The direction of travel and distance is counted from the hex the tractoring unit was in at the time the breakaway maneuver was performed, and is not adjusted due to subsequent movements by the tractoring unit. If the fighter is not able to accelerate to its maximum speed due to acceleration limits (C12.34), it will not be able to break the tractor with this maneuver.

See (C12.342) for speed change restrictions.
See (G7.543) for additional data. See also (C10.134).

(G7.551) The fighter can execute this maneuver even if it will not move on the impulse it performs it, e.g., a Kzinti AAS that is moving at Speed 4 is tractored on Impulse #14 by a ship moving Speed 18. The fighter would be death dragged on Impulse #15 when the ship next moves unless it executes a breakaway. On Impulse #15 the fighter announces the breakaway (G7.543) and accelerates to Speed 8 (its maximum). Even though Speed 8 does not move until Impulse #16, the fighter has broken away, and will have to move in the selected direction (directly away from the tractoring ship) on Impulses #16, #20, and #24.
(G7.552) If the fighter performs this maneuver near the turn break, it will have to continue moving at its maximum speed in a straight line away from the hex where the breakaway maneuver was performed until it meets the conditions of (G7.55).
(G7.553) If the fighter is subsequently crippled, reducing its speed, it is released from the conditions of (G7.55), i.e., it is considered to have fulfilled the requirement to move three hexes directly away.
(G7.554) If a fighter executing a breakaway maneuver is tractored by another unit before it has completely fulfilled the conditions of (G7.55), it can immediately execute another breakaway.

(G7.6) EXTENDED RANGE *(Advanced)*

Tractor beams may be operated at up to three hexes range. However, this requires additional power.

(G7.61) RANGE 2: Twice as much power must be allocated to each tractor for the specific function being used if the range is two hexes. To tractor a ship at a range of two hexes, calculate the power required in (G7.41) and double it.

(G7.62) RANGE 3: Three times as much power must be allocated to each tractor for the specific function being used if the range is three hexes. To tractor a ship at three hexes, calculate the power required in (G7.41) and triple it.

(G7.63) EFFICIENCY: Because of the inefficiency, one point of negative tractor power will cancel three points of tractor energy from a ship three hexes away. Similarly, a ship would have to use two points of power to overcome one point of negative tractor energy by a unit two hexes away.

At a range of three, the ship trying to establish or maintain would have to use six points of power (two effective points of tractor) to overcome one point of negative tractor energy (three to overcome the negative tractor energy, three to hold the object).

EXAMPLE: A ship in hex 1212 wants to tractor a ship in hex 1215. As this is three hexes away, the tractoring ship must allocate three units of power. Should the tractored ship later use negative tractor power, the tractoring ship must use three times as much power to maintain the tractor, plus that required to hold it.

(G7.7) ROTATION *(Advanced)*

A ship holding another object in a tractor beam has some control over its movement. If a tractor is maintained from the previous turn, the ship maintaining the tractor can conduct a rotation during the Initial Activity Phase. Note that rotation changes the position of a unit, not its facing.

See (J1.621) for a special rotation system used to land friendly shuttles and (K2.31) for landing PFs. See (P2.44) for use of the rotation system in lowering objects to or raising them from planets.

Tractor rotation (G7.7) is not the same as base rotation (C3.7).

Tractor rotations can move the object closer or farther away as well as to either side.

If more than one tractor rotation is to be done at the start of a given turn, all such rotations should be recorded in writing before the first is done, i.e., all rotations are simultaneous, and Player A will not be able to observe Player B's rotation before determining how he will rotate the unit he has tractored.

(G7.71) PROCEDURE: A unit or object held in a tractor beam can be "rotated" one hex per turn, at the start of the turn, after the tractor is re-established. The relative position of the tractored object to the tractoring ship is changed by moving it one hex (it must remain within three hexes of the tractoring ship) at the tractoring player's option.
(G7.711) If moved further away, extra power would be required (from reserve power or unused power allocated to tractors) or the strength of the tractor beam (G7.6) would be reduced (it could even be broken after the rotation is completed). A ship holding an object at a range of three hexes cannot push it to a range of four.
(G7.712) If moved closer (e.g., from three hexes to two), the strength of the tractor beam would be increased because the same power (G7.6) was covering less distance. (Tractor beams at Range Zero and Range 1 are the same strength.)
(G7.713) In the case of two ships, the owner of the tractor beam being used controls the rotation, but the smaller of the two ships is the one that is moved by the rotation. If both ships have established tractor beams, the larger ship controls the movement created by rotation. Exception: (G10.562). Also note that an asteroid will always be considered a "larger ship." A ship in a web hex is not treated as a greater size just because it is stuck in the web.
(G7.714) If there is a choice of two hexes into which a unit can be rotated, the unit performing the rotation selects the hex.
(G7.715) If two ships are of equal size, there is no rotation although a ship maintaining a tractor link can pull the other ship one hex closer (or into the same hex if already adjacent) or push it one hex further away. The relative orientation of the two ships relative to the map directions will remain fixed, i.e., if one ship is in direction B from the other, any rotation will maintain that general facing at all times (Tactical Maneuvers, turns, or High Energy Turns, might change the relative shield facings). Example: On Impulse #32, Ship A moves from 2214 into 2215; ship B moves from 2216 into 2215. Ship A tractors ship B. In the rotation step of the initial activity phase of the next turn, ship B can only be pushed into 2216. Note that if ship B was smaller than ship A, ship A could rotate ship B to a different (adjacent) shield facing (or if ship A was smaller than ship B, it could rotate itself to a different shield facing) even if they were in the same hex. If both are maintaining tractor links (to each other) and both wish to conduct a rotation, each writes down his intended rotation and the written records are exposed simultaneously.

If both wish to rotate closer, they move one hex (not two) closer. Both units roll a die; the ship with the lower die roll moves.

If both wish to rotate further away, they move one hex (not two) further apart. Both units roll a die; the ship with the lower roll moves.

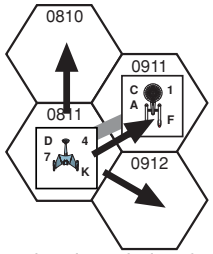
If one wishes to rotate closer and the other further, no rotation takes place (the two rotations cancel).

If only one ship wants to do rotation, it does so within the rules. If there are two (or three) possible hexes into which the other ship could be pushed/pulled, the player conducting the rotation may select either one. For example, a ship in 3610 could push a ship in 3612 into either 3613, 3513, or 3713. A ship in 3610 could push a ship in 3711 into either 3712, 3811, or 3810. Over multiple turns, ships of equal size could (by pushing and pulling) change the shields that each is facing.
(G7.716) In the event that a ship has tractor links with two or more ships, it cannot be rotated.
(G7.717) In the event that a ship with tractor links to small units (size 5-7) is rotated, the drones and shuttles maintain the same relative position to the rotated ship. Exception: mines cannot be rotated; a ship with a tractor link to a mine which is rotated would lose that link. In the case of mines, see (M2.21).
(G7.718) Bases with positional stabilizers (G29.0) cannot be rotated; ships treat them as a "larger size class" (G7.713).
(G7.719) If two ships are in a situation where both can rotate one of them (e.g., an F5 tractoring and tractored by a Federation DN; either or both can rotate the F5), the larger unit uses its rotation while the smaller unit does not. If the units are the same size, see (G7.715).

(G7.72) WHICH UNITS: A tractoring ship may rotate (move) a shuttle, drone, other unit, or ship. Rotation refers to the hex it is in, not its facing.

(G7.73) FACING: The facing of a unit being rotated is controlled by the player who owns the unit or other object being rotated. Rotation does not change facing (heading), which remains unchanged (relative to the map grid). The owning player changes facing by the normal rules (G7.32)+(G7.36), including High Energy Turn and Tactical Maneuver.

(G7.74) PULLING: An object could be pulled into the same hex as the tractoring ship by this method, or if tractored at extended range, it can be pulled closer to the ship. For example, a Federation DN in hex 0911 is holding a Klingon D7 in 0811 by tractor beam. The DN could rotate the D7 to hex 0810 or 0912 or pull it into 0911.



A unit could be pulled to Range Zero, but its relative facing remains the same and it cannot then be pushed away to the opposite side of the tractoring unit, e.g., an F5 could be pulled to Range Zero of a Fed DN's #4 shield, but could not then be pushed to Range Zero of the DN's #1 shield. It could be rotated to the DN's #5 or #3 shield.

(G7.75) TERRAIN: Due to gravitational interference, rotation cannot be used to move a unit or object into a hex containing a planet, moon, star, black hole, or pulsar. Exceptions:

Lowering an object onto or raising it from a planetary surface, see (P2.44).

An object can be rotated into the boundary of a tournament arena; see (P17.0).

An object can be forced into a web (G10.71).

(G7.76) SEEKING WEAPON IMPACT: If a unit is rotated into a hex containing seeking weapons targeted on that unit, the weapons will impact during the Movement Segment of the next impulse. The target will not be able to fire at the weapons before they impact.

If as a result of (G7.36-3) the unit rotated into a seeking weapon moves on Impulse #1, it exits the hex in the Order of Precedence (C1.313) before the seeking weapons impact. The seeking weapons may still strike the unit on Impulse #1 if it is in their FA arc, they also move on Impulse #1 (Speed 32 drones or plasma torpedoes), and their turn or sideslip mode is satisfied (if the target is not centerlined).

(G7.8) PULLING AN ENEMY SHUTTLE INTO YOUR SHUTTLE BAY *(Advanced Rule)*

An enemy shuttlecraft or fighter held in a tractor beam and already in the same hex as the tractoring ship can be pulled into one of the tractoring ship's shuttle boxes (if an unoccupied one exists). This counts as the one "rotation" of that unit (G7.71) allowed per turn. The same rotation can pull a shuttle into the hex with the ship and into the bay.

The procedure in (J1.621) cannot be used with enemy shuttles. The enemy shuttle is landed aboard as per the rules and restrictions of (J1.620).

Once the enemy shuttle is inside the shuttle bay, the following procedures and rules apply. This procedure is also used in the case of an enemy shuttle that crashes into a shuttle bay; see (J1.63).

See (D7.63) for boarding party combat inside a shuttle bay.

(G7.81) FIRING INSIDE THE BAY: If an enemy shuttle that is pulled into a bay has weapons available to launch or fire, it can fire them inside the shuttle bay. (An enemy shuttle that crashed aboard of its own volition had to disarm its weapons due to the shock of the crash landing and cannot fire or launch weapons within 32 impulses of landing.)

(G7.811) Firing/launching inside the bay is conducted within the normal Sequence of Play (direct-fire and seeking weapons at different times; a fighter with both might destroy itself with one before the other can fire/launch). Each shuttle box damage point must be randomly distributed and might destroy the firing shuttle itself if they are scored on the box it is in. The procedure in (J1.413) can be used. See exception in (G7.813). A fighter/shuttle could fire every turn until destroyed or captured (although firing many weapons will destroy the shuttle).

(G7.812) The range is assumed to be zero, with half of the damage points (round up) scored on shuttle boxes (G7.811) in that bay and the remainder as internal damage (inside the armor). (If there are not enough undestroyed shuttle boxes available, all remaining damage points are resolved as internal damage.) See also (G7.813) and (G7.814).

(G7.8121) Roll normally for each weapon's fire; do not assume maximum damage due to the "can't miss" situation.

(G7.8122) If the weapon cannot fire at Range Zero, use the Range 1 column.

(G7.8123) If two or more shuttles in the bay fire simultaneously, combine this into one volley but do not combine it with damage from other sources.

(G7.813) Weapons of the following types (photons, disruptors, plasma torpedoes, hellbores, plasma-D torpedoes, fusion beams, drones except type-VI) automatically and immediately hit, but the result destroys the shuttle (and the box it is in) as one point of the damage scored on the shuttle bay. The damage ignores shields and armor and is applied as in (G7.812). Hellbores score the full explosion strength. Proximity photons score the full unreduced (eight points) damage because the proximity fuse does not reduce warhead strength, but increases the detonation radius, and inside the bay the radius becomes irrelevant. Because this type of firing is literal suicide, a fighter cannot do it unless it has been attacked by boarding parties (and survived the attack).

(G7.814) Weapons not listed in (G7.813) do not necessarily destroy the shuttle, but might do so if allocated (randomly) to the shuttle box holding the firing shuttle (G7.811). Type-VI drones score two points of damage. Phasers (and other weapons not listed) score their normal damage. ADDs score one point of damage (the only way an ADD can damage a ship).

(G7.82) CAPTURE ATTEMPTS: At the end of each turn that any uncaptured enemy shuttle is in the shuttle bay, boarding parties belonging to the ship can attempt to capture it. See (D7.631).

(G7.83) CRIPPLED SHUTTLES: If the shuttle has been crippled, it cannot fire any weapons or resist any attempt to capture it with boarding parties. See (J1.335) and (D7.632).

(G7.84) BOARDERS: If there are boarding parties on board the shuttle (friendly to the shuttle, not the ship), they may "board" the ship, in which case see (D7.633)-(D7.636).

(G7.85) EXPULSION: A shuttle could be expelled from the bay in the Operate Tractors Step of any subsequent impulse. This requires one tractor beam (within the normal rules, e.g., powered, undestroyed), which could continue holding the shuttle under the normal tractor rules. A shuttle could escape on its own if it is not held in the bay by a tractor beam. Fighters can not make an HET escape (G7.55) from the tractor holding them in (or expelling them from) the shuttle bay. Expulsion counts as "launching" the shuttle, including for purposes of (J1.50) and (J1.34).

(G7.86) LOW-POWER ATTACKS: Boarding parties on the ship could attempt to attack (rather than capture) the shuttle by firing at it with low-powered weapons. In such case see (D7.637).

(G7.9) RESTRICTIONS ON A UNIT WHICH IS HELD IN OR TOWED BY A TRACTOR BEAM

A unit being tractored (by a friendly or enemy tractor beam) is under certain restrictions defined herein. See (C11.32) in regard to nimble ships.

The holding unit is not affected by this rules section (G7.9).

(G7.90) TRACTORED BASES: Bases with active positional stabilizers (G29.0) are exempt from the restrictions of (G7.91), (G7.94), and (G7.98). All bases in *Basic Set* qualify. Ships docked to a base cannot fire at the base; see (C13.72).

(G7.91) PRIMARY FIRING RESTRICTION: A unit being tractored (i.e., held in a tractor beam) cannot fire its direct-fire weapons or plasma torpedoes, or use its tractor beams, against any ship except the holding unit. Note that this restriction applies to "ships" and not "units," so the tractored unit can fire at shuttles and seeking weapons (but not PFs). See also (G7.943) in regard to the launch of seeking weapons. Tractors do not affect special sensors (G24.0).

EXEMPTION: This firing (and tractoring) restriction (G7.91) is ignored if the tractoring unit is equal in size class to or smaller than the tractored unit *and* if the two units are not on the same side. For example:

A Klingon F5 tractors a Federation DN. The F5 is not under (G7.91) because it isn't held in a tractor; neither is the DN because it is large enough to ignore the F5.

A Federation DN tractors a Klingon F5. The DN is not under (G7.91) because it isn't held in a tractor; the F5 is because the DN is too large to ignore.

A Federation DN tractors a Federation DD. The DN is not under (G7.91) because it isn't held in a tractor; the DD is because the DN is too large to ignore.

A Federation DD tractors a Federation DN. The DD is not under (G7.91) because it isn't held in a tractor; the DN is because its fire control is confused by the "friendly" tractor.

A Federation DD tractors a Klingon F5. The DD is not under (G7.91) because it isn't held in a tractor; the F5 is not because the DD is of an equal size class and the two ships are not on the same side.

A Federation DD tractors another Federation DD. The first DD is not under (G7.91) because it isn't held in a tractor; the second is because while the two ships are of equal size they are on the same side and the friendly tractor confuses the second DD's fire control.

In the event that two ships tractor each other, consider each case separately within the examples above.

(G7.92) ERRATIC MANEUVERS: A unit being held in a tractor beam cannot use Erratic Maneuvers (C10.24). See (C6.553) for an overriding condition.

(G7.921) A friendly unit using EM cannot be tractored unless it drops EM and cannot adopt EM while held in a tractor.

(G7.922) If an enemy unit performing EM is grabbed by a tractor beam, all effects of EM stop immediately. If the enemy unit is later released or breaks free, the effects of EM resume. The external tractor is an overriding condition in addition to the unit's normal EM condition. If the enemy unit drops EM or adopts it, this takes effect but the effect will not be realized until the unit is released.

(G7.93) FACING: A unit being held in a tractor beam can use Tactical Maneuvers (C5.0), High Energy Turns (G7.36), or its normal Turn Mode (C2.413) to control its own facing. The holding unit cannot control the facing of the held unit. Docked units (C13.922) are treated as docked units, not tractored units. See also (G7.3222) and (C6.0).

(G7.94) RESTRICTIONS ON "LAUNCHED" UNITS

(G7.941) A unit being held cannot launch or land fighters, shuttles, or PFs. A unit being held cannot drop or pick up a pod, pallet, or warp pack. These units do not have the power to escape from or force their way through the tractor beam. While a fighter in space can break a tractor beam (G7.55), a fighter cannot launch from the shuttle bay (or launch tube) of a tractored ship because there is insufficient space to complete the maneuver, or get through the interference while decelerating to land. Shuttles and fighters cannot "crash aboard" (J1.65) a unit held in a tractor beam. Exception, units with positional stabilizers can be landed on normally even if they are tractored by other units. See also (G7.98). Exceptions: (G7.9432), (G7.90), and (C13.947).

(G7.942) Units (booms, shuttles, PFs, ships docked to bases) can "escape" under the provisions of (D21.4) from a ship held in a tractor beam because the tractored unit's explosion weakens the tractor link.

(G7.943) A unit being held in a tractor beam cannot launch seeking weapons except at the holding unit (regardless of their relative size). This is because those weapons lack the power to escape the tractor beam, but if they are moving toward the holding unit, they don't have to break away from the beam to reach their target. A scout (G24.23) or wild SWAC or PFS cannot attract a drone held in a tractor beam in this manner.

(G7.9431) Seeking weapons (including plasma torpedoes) launched and targeted on the tractoring unit must be launched facing that unit and must move directly toward it by the shortest possible route, using hexes along the direct line of fire.

(G7.9432) Note that as suicide shuttles and scatter-packs are seeking weapons, they cannot be launched except if targeted on the holding unit. (They *can* be launched at the holding unit, even though shuttles and fighters that are not configured as seeking weapons *cannot* be launched.) These seeking shuttles, being unmanned, can function in the stress of the tractor field where a pilot could not. Weapons released from a scatter-pack can only be targeted on the holding unit (and SPs probably will not have sufficient standoff distance to release their drones).

(G7.9433) While on the map, such seeking weapons as described herein will be carried with the two units while they are moving under (G7.36). Those weapons cannot be rotated (and are not considered to be held) unless tractored separately. Seeking shuttles could suffer destruction by "death dragging" (G7.54). Note that a unit nominally in the "tractor tunnel" between two units can be tractored separately and held by either of the units or a third unit. If a tractored unit is rotated (G7.7), any seeking weapons in "the tunnel" rotate with it. This would affect a weapon still in the hex of the launching unit. A weapon in a hex between the two ships would not be moved as it would still be in between them. Note, this rotation cannot increase or decrease the distance between the seeking weapons and the target (i.e., the tractoring unit), nor can they be rotated to either side separately from the tractored unit.

EXAMPLES ✯: If a unit in hex 3411 tractored a unit in 3408, the unit in 3408 could launch seeking weapons at the unit in 3411. If these weapons were launched on Impulse #32, and the unit in 3408 was then rotated to 3309, the seeking weapons would also be rotated to 3309. If the seeking weapons had been launched earlier and were in hex 3409, or 3410, the rotation would not affect them being "in the tunnel".

The unit in 3411 tractors a unit in 3410 which then launches seeking weapons on Impulse #32. If the unit in 3410 is then rotated to 3511 the seeking weapons would be rotated to that hex as well.

The unit in 3411 tractors a unit in 3409 and that unit launches seeking weapons that are in hex 3410 on Impulse #32. If the unit in 3409 is rotated to 3310 the seeking weapons in 3410 are still in the "tunnel" but are not themselves moved as a result of this rotation.

The unit in 3411 tractors a unit in 3310, and that unit launches seeking weapons which enter hex 3410 on Impulse #32. If the unit in 3310 is rotated into hex 3210, the seeking weapons will be moved by the "tunnel" into 3311. If the unit in 3310 is rotated back into 3209 or 3309, the seeking weapons will remain in hex 3410. If the unit in 3310 is rotated into 3410 (closer to the target in 3411), the seeking weapons are unaffected and remain in 3410. If the unit in 3310 is rotated closer into 3311, the seeking weapons, in order remain in the tractor tunnel, are moved into hex 3311 as well. However, because of their seeking nature, they are turned to face the target (at the launching player's discretion) so long as this turn is not greater than 60°. This turn does NOT count against the seeking weapon's Turn Mode.

(G7.9434) Note that this section (G7.9433) does not apply to plasma torpedoes (which cannot be tractored), but see (G7.91). Note also that despite similar titles "anti-drones" (ADDs) are direct-fire weapons and are not drones, hence they are not restricted by this rule.

(G7.944) Fighters, shuttles, seeking weapons, pods, etc. launched (or released or dropped or whatever) by the tractoring unit are not affected by the tractoring unit's tractor. They gain no benefit (they cannot "ride" the tractor to the target) and suffer no penalty.

(G7.945) Mines can be laid by a unit held in a tractor beam. The mine will NOT be carried along by a tractor between two ships as a drone would be under (G7.9433).

(G7.95) POWER: A unit being held cannot transfer power to any other unit including the towing/holding unit unless "docked;" see for example: (C13.41), (C13.55), (C13.952), (C14.0), and (R1.10B4).

(G7.96) NON-COMBINATION: The systems (including shields) of the two units joined by a tractor beam are not combined by virtue of the tractor link. Those systems may be combined if the rules so provide, for example if the units are docked as in (C14.0) or (G14.0). Tractor beams will often be a prelude to or a part of a docking arrangement, but it is the docking, not the tractor beam, which creates any combination, and not all forms of docking do so.

(G7.97) LOCK-ON: A unit held in a tractor beam may be locked-onto and fired at separately by enemy units.

See (G7.412) for lock-on between linked units.

(G7.98) WILD WEASELS: A unit being held in a tractor beam cannot launch a WW due to (G7.94). This is why plasma-armed ships (and drone-armed ships with double control and fast-firing racks) strive to achieve the "Gorn Anchor" (in which the target is held in a tractor beam when the torpedoes are launched). Exceptions: Docked units (C13.947) and tractored bases (G7.90).

NOTE: A unit protected by a WW cannot be tractored; see (J3.452).

(G7.99) CLOAKED UNITS: A cloaked unit held in a tractor beam is particularly vulnerable as it cannot fire its own weapons while most of the advantages of the cloak are lost. For this reason, whenever a ship is hunting a cloaked unit, any temporary lock-on is used as an opportunity to establish a tractor beam.

(G7.991) The ship attempting to establish the tractor link must have a lock-on to the cloaked unit and must fulfill all requirements [except (D6.37); see (G13.303)] to establish a tractor link. (The true range, not the effective range, is used.) Once the link is established, the tractoring ship will have a lock-on to the cloaked ship (G7.412) without rolling to retain this lock-on (G13.331).

(G7.992) Any unit with a tractor beam attached to a cloaked unit is exempt from the double-range penalty (G13.301) in regard to that particular unit. This is because it automatically has a lock-on (G7.412) and the double-range penalty is based on a lack of a lock-on.

(G7.993) Any unit with a tractor beam attached to a cloaked unit is exempt from the +5 range penalty (G13.302) with regard to that unit. Even with a tractor, (G13.37) still applies.

(G7.994) The fact that one unit has a lock-on to a cloaked unit does not confer any benefits to or cancel any penalties against units allied to the tractoring unit.

(G7.995) This rule (G7.99) does not apply to a tractor beam used to hold two units in a docked configuration. See (C13.949) and (G13.46).

(G8.0) TRANSPORTERS

Most starships in the game are equipped with transporters which are used to move personnel and equipment from one point to another over short distances. Transporters may be used in this game to transfer officers, evacuate crews, and/or transport boarding parties.

On a starship, most transporter activity involves administrative personnel movements. In the combat sequences in *Star Fleet Battles*, most transporter activity involves sending Marines onto enemy ships.

(G8.1) GENERAL RULES

(G8.11) GENERAL: Transporters are capable of picking up people and moving them to their location, or of transporting people at the location of the transporter to another location, or of transferring people from one location to another. There does not have to be a transporter unit on both ends of the transfer. Exception, (G13.421); see also (G19.47) for cases where two transporters are needed.

(G8.111) Transporting may be done during any impulse. This is done during the Marines Activity Stage of the Impulse Activity Segment. See Annex #2.

(G8.112) Each transporter may be used only once per turn. A given transporter cannot be used twice (on two consecutive turns) within 1/4-turn. Exception: (D21.3).

(G8.113) A single transporter can, in a single operation, pick up an object at one point and deposit it at another, without ever bringing it to the location of the transporter itself. (This is known as the "Bouncing Marines Tactic.") This must be done within the rules; it must be legally possible to transport something to or from both locations. It is not necessary (G8.21) for there to be a line-of-sight from the original location to the destination; it is necessary for there to be an unblocked line of sight from the transporter to both locations. In this case, the actual origin of the transported item is the origin for the first half of the operation (the unit with the transporter is the destination), then the unit with the transporter becomes the new origin and the ultimate destination is the destination for the second half of the operation. Note that this is a single operation conducted in a single impulse. The items or personnel being transported cannot stop at the transporter without requiring a second transporter operation. This cannot be used for hit-and-run raids (D7.8) as the two halves of the operation consume all of the available time. This rule cannot move explosive ordnance (G25.3).

(G8.12) SSD: Each box marked "TRAN" on the SSD represents one transporter. As with all systems, a ship must have undestroyed transporters to use them.

(G8.13) ENERGY: It requires one unit of energy to operate up to five of a given ship's transporters. If a ship has 6-10 transporters, two units of energy must be allocated if all are to be used. When using fractional accounting (B3.2), each transporter requires 1/5 point.

(G8.14) RANGE: The maximum range of transporters is five hexes.

(G8.15) RESTRICTION: Transporters can never be used to beam enemy personnel or objects (including shuttle pilots, cloaking devices, etc) without their permission (due to the special security systems involved). A hit and run raid, however, could result in captured crew units [or other objects] being transported at phaser-point. Captured equipment can be transported as friendly equipment could be.

(G8.16) CYCLE: A given unit or object cannot be transported twice within a period of 1/4-turn. Hit and run raids form a partial and limited exception to this rule, in that the attacking marines are transported to the target and back again during the same impulse.

(G8.17) FIRE CONTROL: The unit operating the transporter must have a lock-on to both the origin and destination of the transporter action; see (D6.623). (Obviously, the transporter always has a lock-on to itself.) Exceptions include escape (D21.3), friendly cloaked units (G13.421), and docked ships (C13.955) or (C13.474).

Units using EM cannot use transporters; see (C10.52).

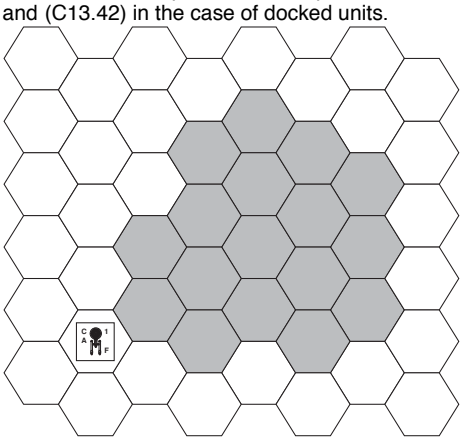
(G8.2) THE EFFECT OF SHIELDS ON TRANSPORTERS

(G8.21) BLOCKAGE: Transporters will not function through shields. Transporters work on a direct line from point to point. To determine which shield must be dropped or destroyed in order to use transporters, use the same rules of sighting as are used for direct-fire weapons.

See (D10.52) for the effect of PA panels on transporters.

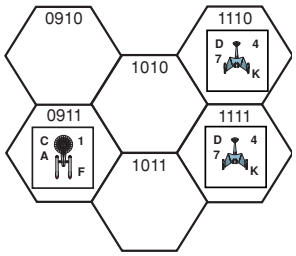
See (C13.955) and (C13.42) in the case of docked units.

The illustration at right shows the hexes to which a Federation CA (or any ship) with heading "A" could operate its transporters after dropping the #2 shield. See the examples below for cases of ship-to-ship transporting.



EXAMPLE, PART I: In the illustration below, a Federation cruiser is in hex 0911 while a Klingon D7 is in 1110 and a second Klingon D7 is in 1111. The Federation ship fires photon torpedoes (overloaded with all but one point of available reserve power) at the first D7, scoring two hits with overloads and some of the phasers, destroying the #5 shield. Consulting the records of the scenario, the Federation player observes that most of the marines (boarding parties) from the D7 were transported to a nearby planet earlier.

The Federation player, taking advantage of the shortage of Klingon marines, wishes to board the first D7 (which is almost undamaged except for the down shield) in an attempt to capture it. The Federation ship drops its #2 shield (the one facing the second D7) and applies his reserve power to the transporters in order to do this.



(G8.22) DROPPING SHIELDS: Players may, at their option, voluntarily drop any specific shield to facilitate the use of transporters, but the shield in question will remain down for at least one-quarter turn after it was dropped. See (D3.51) for the detailed procedure.

(G8.23) GENERAL REINFORCEMENT: General shield reinforcement will block the use of transporters, even through shields that are voluntarily dropped or destroyed by damage.

If a player announces he is trying to transport boarding parties onto an enemy unit, and the target unit still has general reinforcement shielding power active [or creates it with reserve power (H7.344)], the attempt fails with no loss or damage to either side. However, as each transporter may only be used once in a turn, no further attempt could be made with that specific transporter until the following turn. Note that reinforcement can be dropped, as shields can, under (D3.55). A minimum of one point of shield strength (not necessarily energy) is required to block transporters. This includes general reinforcement.

EXAMPLE, PART II: In the illustration above, the Federation player declares a transporter action against the D7 in 1110. The D7 then uses two points of reserve power to create one point of general shield reinforcement (H7.341), blocking the transporter action. The Federation player could, on a later impulse, fire a phaser or some other weapon to destroy this one point of general shield reinforcement. As it happens in this case, the Federation CA has no more weapons available to be fired at the present time.

(G8.24) SHIELD DETERMINATION: In the event that the line of sight passes exactly through the junction of two shields, the exact facing shield must be determined.

(G8.241) If the destination had no shields, or had two adjacent down shields (e.g., the #2 and #3 on the Federation CA in the illustration), the shield of the destination would not be relevant and the unit using the transporter could drop either of the two shields in order to facilitate the use of transporters.

(G8.242) If the destination has shields, the two units (origin and destination) determine their facing shields by (D3.4).

EXAMPLE, PART III: In the illustration, the D7 in hex 1111 now (on the next impulse) wishes to board the Federation CA through the down #2 shield. Using (D3.4) to determine the actual line of fire, the captain of the D7 in hex 1111 notes that he must be going faster than the CA in order for the line-of-sight to pass through the CA's #2 shield. If that were the case, the D7 in hex 1111 would drop its #5 shield and conduct the operation. In this case, however, it is Impulse #32 and even though the second D7 is going the same speed as the CA (which with its better Turn Mode of "B" against the CA's Turn Mode of "D") the shield resolution procedure in (D3.4) proceeds all the way to (D3.43) step C3, which allows the Federation player to decide which shield was "hit" by the transporter. The Federation player, being no fool, selects shield #3 and transporter action is impossible.

However, the captain of the second D7 is not entirely stupid either. After briefly considering the idea of an unplotted mid-turn acceleration (C12.24) and discarding it (because he has only one point of reserve warp power available and that would leave no power for the transporters), he drops his #1 shield (facing the D7). The D7 in hex 1110 then drops his #4 shield (facing the D7 in hex 1111) and drops the one point of general shield reinforcement. The D7 in hex 1110 then uses its transporters (with the last point of reserve power) to pick up five boarding parties from the D7 in hex 1111 and deposit them on the Federation CA, using (G8.113). Moreover, the D7 in hex 1111 uses its point of reserve power to operate its five transporters, moving five more boarding parties to the D7 in hex 1110 to guard against counter-boarding by the Federation CA. Humiliated at being outsmarted by these two Klingons, the Federation captain re-evaluates his career options.

(G8.3) OPERATIONS

(G8.31) COMBAT RATE: When sending boarding parties into an active combat situation [including boarding party combat (D7.0), ground combat (D15.0), or on a hit and run raid (D7.8)], each transporter can transport only one boarding party at a time. (This is much less than the administrative rate. The difference is that the troops must have their weapons armed and at the ready and must be physically facing the appropriate directions in a combat stance. This takes considerably more room than troops standing at attention in a squad formation.)

(G8.32) NORMAL (NON-COMBAT) RATE: Each transporter can perform one action per turn. Each action can transport one or two crew units, or their equivalent in boarding parties, passengers, deck crews, etc. (Four boarding parties equal two crew units, etc.) This cannot be into a "combat situation," i.e., into an active boarding party (D7.0) or (D16.0) engagement or a non-remote area of a ground (D15.0) battle.

(G8.321) Each transporter could, instead of crew units, transport one T-bomb (M3.22) or a certain amount of cargo (G25.0).

(G8.322) Troops can be sent into combat situations (i.e., into a ground combat location (D15.0) or into a ship in which combat is taking place) at this higher non-combat rate. They could not fight offensively on the turn of their arrival; they could become casualties on that turn. No more troops can be sent by the non-combat rates (total) than there are active troops (not under this or other restrictions) in the enemy-held area.

EXAMPLE, PART IV: The D7 transported five boarding parties onto the CA (above). After boarding party combat at the end of the turn, three survived. The D7 could use three transporters to send three "combat rate" boarding parties and then, on the next impulse, use the other two transporters to send six "non-combat rate" boarding parties (because six unrestricted boarding parties are there to screen them). As the two transporters used for non-combat rate transfers had a total capacity of eight boarding parties, they could have transported two more than they did had there been more troops on board to screen the arrivals. If another D7 arrived, it could use four transporters to send four "combat" boarding parties and (on the next impulse) its fifth transporter to send four at the "non-combat" rate.

(G8.323) The non-combat rates cannot be used to create a combat situation, i.e., the first units transported into an enemy-held area cannot use the non-combat rate. A "beachhead" must first be established by boarding parties transported at the combat rate. The non-combat rate cannot be used until one full turn (32 consecutive impulses) after boarding parties arrived (by whatever means), and only if boarding parties have survived on the enemy-held area for that entire time. Exception: (G8.33).

(G8.33) EMERGENCY RATE: In an emergency situation (D21.3) when a ship is being completely evacuated, each transporter could carry four crew units (or their equivalent in boarding parties, deck crews, etc.). If transported to an enemy vessel, such crew units would surrender immediately; exceptions (D21.34) and (G22.223).

(G8.34) LIMITATIONS: There are some objects which cannot be transported.

(G8.341) The following cannot be transported: ships, shuttles (including fighters), PFs (including interceptors), direct-fire weapons (e.g., photons, disruptors, hellbores), seeking weapons that have been launched (unlaunched drones can be transported as cargo), previously-laid mines, planets, asteroids, other terrain features, monsters, or bases.

See also (G8.15) for additional prohibited items.

See also (G25.0) for cargo transfers.

(G8.342) Andromedans (in *Module C2)* are the only empire able to transport a "ship," and they can only transport their own ships. See (G19.4).

(G8.343) Transporters cannot transport part of an object; they must move the entire object. Thus, you cannot transport the phasers off of an enemy ship or the back half of an enemy fighter a hex or two away from the front half. Exception: Ground combat vehicles are designed to be transported in two sections (G25.221).

(G8.344) Transporters cannot remove weapons or ammunition, such as drones from a drone rack or chaff pods from a fighter.

(G8.4) CAMPAIGN FUNCTIONS

In some campaign games, players may wish to assume that they personally are on board a given ship. (The logical extension of this is that if that ship is destroyed, they cannot participate further in the game. While this works well enough in large multi-player games, in one-on-one games, it is, of course, pointless.) Using transporters, it is possible to "beam" yourself from a doomed ship to one that (you hope) will survive the scenario.

(G9.0) CREW UNITS

(G9.1) ASSIGNMENT

Each ship type is assigned a number of "crew units," each representing about ten people (Klingons, Gorns, or whatever).

(G9.11) RECORDS: At their option, players may keep track of crew units for victory points. At the time the ship is destroyed, all crew units still on board perish. See (G9.3) and (D21.0).

(G9.12) TRANSFERS: When transferring crews from ship to ship, add any crew units taken from one ship to the amount carried by the ship they are transferred to. Example: at the start of a given turn, one ship has 32 crew units, while another has 31. During the course of the turn, four crew units are transferred from the second ship to the first. At the end of the turn, the first ship will have 36 crew units and the second will have 27.

(G9.13) EVACUATIONS: When evacuating a ship, crews may be transferred to another ship, base, planet, or other survivable habitat. Administrative shuttles (G9.14) can also be used to evacuate crew units. Evacuations might be conducted under (D21.0) or within the normal rules (perhaps because a ship is not expected to survive).

(G9.14) SHUTTLES: One administrative shuttle may carry one crew unit (J2.211). There are sufficient supplies on board to last the inhabitants several hundred turns.
(G9.141) Administrative shuttles can be "overcrowded" during emergency situations. A shuttle can carry two crew units, but all will perish if the shuttle has not landed in an environment where the passengers can debark within twenty turns due to the overload on the environmental systems. If the shuttle is crippled while overcrowded, the passengers become casualties (one unit is killed, the other is wounded). If not using (G9.23), wounded are killed.
(G9.142) Administrative shuttles can be "very overcrowded" in extreme emergencies, carrying up to three crew units. All will perish if the shuttle has not landed in an environment where the passengers can debark within ten turns due to the extreme overload on the environmental systems. If the shuttle is damaged while very overcrowded, the passengers become casualties (one unit is killed, the other two are wounded). Only uncrippled shuttles can be used in this role, if the shuttle is crippled while overcrowded, its remaining time before critical overload is halved, rounding fractions up, e.g., if the shuttle had five turns remaining when it was crippled (not counting the current turn), it would have three turns remaining after being crippled. The casualties for damage scored to the shuttle are only scored when the shuttle is crippled.
(G9.143) Various other non-combat shuttles (e.g., the ground assault shuttle) carry passengers by the same rules as administrative shuttles. These are noted in their unit descriptions. The large heavy transport shuttle (R1.F5) carries twice as many as the admin shuttle.

(G9.15) NUMBER: Crew units are assigned by the MASTER SHIP CHART and noted on each SSD. See (G11.23) for an exception.

(G9.16) CASUALTIES: Each crew unit killed in combat (on a unit that is not destroyed) scores 1/4 BPV point (added to the opponent's score), and each crew unit saved (by friendly forces) from a unit that was destroyed reduces the points received (by the opponents) for destroying it by 1/4 point. Captured crew units are worth 1/4 BPV in addition to the BPV of the ship. Stunned and wounded (G9.23) crew units do not count as casualties (but could be considered prisoners).

(G9.17) SHUTTLE CREWS: Shuttle and fighter crews are part of the ship's crew.

(G9.18) PF CREWS: PF crews are not counted as part of the crew of their PFT. These crews can abandon their PF (by various means provided in the rules) and be merged into the crew of the PFT (or base, or whatever). See (K2.36).

(G9.19) BASES: Most large base SSDs include a number of crew unit check-off boxes larger than the number of crew units assigned to the base under Annex #3. The additional crew unit boxes are to account for crew units added by base augmentation modules, e.g., Hangar Bay Modules (R1.4). After adding any crew units to the base from such augmentation modules the excess crew unit boxes should be marked out.

(G9.2) CASUALTIES

(G9.21) CAUSE: Every tenth internal damage point scored on a ship kills one crew unit. See also (D7.21), (G17.25), and (J4.811). If the ship is destroyed, see (G9.11). Exception: (G9.231).

(G9.22) SURVIVORS: The last crew unit and the last two boarding parties (in effect, two crew units) cannot be destroyed by internal damage scored against the ship. (There would almost always be survivors.) Monsters that attack crew units directly (rather than by damaging the ship) are exempt from this rule. See (SM6.47).

(G9.23) WOUNDED CREW UNITS (Optional): Crew units might be wounded by various means.
(G9.231) If using this rule, one half of the casualties caused by various rules [e.g., (G9.21), (G9.142), (D7.21), (D7.4), (G17.25), (P15.1), (J4.811), etc.] are considered wounded rather than killed (round fractions up).
(G9.232) Wounded crew units are unable to function for the remainder of the scenario, but will recover within 24 hours. This is usually enough time for the next scenario. If insufficient time will be available for recovery during a campaign, this will be provided in specific scenario rules.
(G9.233) Wounded and dead crew units can be cured by a Legendary Doctor (G22.611).

(G9.24) OTHER CAUSES OF CASUALTIES may be specified as special scenario or terrain rules. See (SM6.47) and (P15.1).

(G9.3) RECORD KEEPING

(G9.31) CREW UNITS: The number of crew units on a given ship includes the boarding parties and deck crews. Two boarding parties or deck crews equal one crew unit. It is desirable to keep track of which crew units on a given ship are boarding parties, which are deck crews, and which are general crew.

(G9.32) EXAMPLE: A Kzinti CV has 50 crew units. Of these, ten represent the twenty boarding parties and six represent the twelve deck crews. If the ship were to receive 53 internal hits, five of the crew units would have been killed. In addition, five boarding parties would also be killed, but since the first four boarding party casualties (D7.21) are not counted, only one is killed. (From this point, every ten internals will kill a boarding party.) In addition, five fighter boxes were destroyed, killing five deck crews. The combined boarding party and deck crew casualties represent three more crew units killed for a total of eight. After receiving this damage, the ship has 42 crew units, of which 9-1/2 represent the nineteen boarding parties and 3-1/2 represent the seven remaining deck crews. Note that after the first 40 internals, every ten internals from that point kills a crew unit AND a boarding party.

(G9.4) MINIMUM CREW

All ships require a certain number of crewmen to be operated, even at a minimum level.

(G9.41) REQUIREMENTS: The minimum crew for each ship depends on the size of its original crew, as follows:

Original crew	Minimum crew
1-4	1
5-8	2
9-12	3
13+	4
Starbase	24

(G9.411) If the crew of a ship is reduced below this level by enemy action or by evacuation, or if the skeleton crew beamed aboard a captured ship is less than the specified size, it is considered to be "undermanned." See (K1.31) for casualties to PF crews.
(G9.412) Captured ships require a minimum crew to function; see (D7.51).
(G9.413) For PFs (K1.31) the minimum crew is the original crew. These units are easily destroyed and have only enough crew to operate the systems.
(G9.414) Boarding parties and deck crews do not count toward satisfying the minimum crew requirement, but can be converted to crew units in some cases; see (G9.431). Some small ground bases have numbers of specialist crew units, e.g., deck crews on fighter ground bases, accounting for most of the crew units, and these crew units are not counted towards the minimum crew, but are counted for conversions to militia squads under (D15.83).
(G9.415) Legendary officers can substitute for crew units in fulfilling the minimum crew requirement; see (G22.121).
(G9.416) Non-crew passengers cannot be counted toward fulfilling the minimum crew requirement. Passengers are noted on the MASTER SHIP CHART under crew units as Crew + Passengers; e.g., 4+30 on the Federation Starliner Pod (R2.9). Some scenarios may specify that the passengers are replacement crew units and do qualify as crew. Troop ships and commando ships (marked with a "T" in their notes column on the Master Ship Chart/Annex #3) do not count the boarding parties as part of the crew.

(G9.42) RESTRICTIONS ON UNDERMANNED SHIPS: If a ship is undermanned, it cannot operate any equipment except power producing systems (engines, APR, batteries), control systems, sensors, scanners, and shields. The ship can use ECM and ECCM normally unless it is Uncontrolled (G2.24).
(G9.421) It can move, but maneuverability is affected; the Turn Mode is increased by one. One crew unit can be assigned to "movement" and conduct all normal movement, turning, and sideslips, but a second unit would be required to perform an HET. There is no effect on nimble status or EM. In order for the ship to move [including tactical maneuvers (C3.0) or a "zero energy turn" (C5.13) while stationary], one crew unit must be assigned to a control system (Bridge, Aux, Emer, Flag, but not Security). If all eligible control systems have been destroyed, this crew unit may be assigned to one in any case [this is the "temporary control room" as defined in (D7.501)]. The ship in this case will also be operating under the "uncontrolled ship" (G2.2) restrictions e.g., even if a crew unit were assigned to operate a tractor beam, the tractor beam would not be useable under (G2.24).
(G9.422) Each crew unit on board can operate one undestroyed systems box on the SSD (a weapon, tractor beam, lab, etc.). The cloaking device requires a crew unit. UIM, aegis, improved drone control, and DERFACS do not require an extra crew unit. An SFG requires one crew unit, not two (G16.52). This one system per crew unit is in addition to the systems listed in (G9.42).

(G9.4221) Crew units are assigned to a system box, system repair [exception, shield repairs under (D9.2) only require that a control station be manned and power supplied] or maneuver capability at the start of the turn during the Initial Activity Phase as part of the Assign Boarding Parties as Guard (D7.83) segment. Note that militia (D15.83) is created in this same segment, and that boarding parties and deck crews are converted to crew units (G9.431) in this same segment. Note specifically that a given crew unit can only operate one system in a given turn. Crew units may be reassigned on the following turn, and on each subsequent turn in the same segment.
(G9.4222) Multi-turn arming weapons must be continuously supervised (an assigned crew unit) or their arming is halted (the power is lost), and a weapon requiring power to hold also requires supervision (an assigned crew unit) or its charge is automatically ejected (this applies to wild weasel and suicide shuttles). (Freezers holding weapon charges in shuttle bays do not require power to be held and thus do not need to be supervised, but will require an assigned crew unit if they are in the process of being armed; one crew unit can supervise all of the freezers in a single bay. Phaser capacitors are excluded, i.e., they may be charged normally, but each phaser requires an assigned crew unit to be fired.)
(G9.4223) A crew unit assigned to repair a system requiring more than one turn to repair must be continuously assigned to that repair until it is completed; if the crew unit is reassigned before the repair is completed then the repair is lost. A crew unit assigned to repair two linked systems, e.g., two 360° phasers, could continuously work on the second system after completing the first. For example, if repairing two linked phaser-1s on a ship with a damage control rating of "four," the crew unit could apply four points of repair to one phaser during one turn. On the following turn it could complete the repair of the first phaser and apply three points of repair to the second phaser, completing the repair of the second phaser (two more points) on the third turn. The crew unit could optionally hastily repair both phasers as phaser-3s in a single turn using two of the ship's allowed repairs.

(G9.423) Computer-controlled ships (G11.23) are not subject to the minimum crew rules.
(G9.424) Crew units transported to an undermanned ship during a turn count as crew on that ship (if sent for that purpose) during the Energy Allocation Phase that is more than 32 impulses from the point at which they arrived on the ship. Thus, crew units transported aboard between Impulse #2 and Impulse #32 of Turn #5 do not count as crew on the ship until the Energy Allocation Phase of Turn #7. Crew units transported over on Impulse #1 of Turn #6 count as crew during the energy allocation phase of Turn #7. This applies for (D7.51) in manning a captured ship.

(G9.43) SPECIAL CREW UNITS: Boarding parties and deck crews cannot be counted toward the minimum crew requirements.
(G9.431) Since the last two boarding parties cannot be destroyed by damage scored on the ship (G9.22), it would be possible for the ship to have boarding parties remaining when the ship is reduced to or below a minimum crew. In this case, the owning player may disband the last two boarding parties (convert them to one general crew unit) to satisfy the minimum crew requirement. Once converted, they cannot be converted back into boarding parties, and their "last two boarding parties" exemption (G9.22) no longer applies. Deck crews (J4.81) can be converted to general crew units at any point, but cannot be converted back into deck crews.
(G9.432) Boarding parties on an enemy ship (even if they have captured it) cannot be converted into crew units. See (D7.51).
(G9.433) Units specifically designated as ground troops (found only in *Module M)* cannot be converted into crew units. Fleet marines have at least minimal crew training and, when combined with a few "real" crewmen, can get the job done. (Marines are boarding parties.)

(G9.44) UNCONTROLLED STATUS: The effects of being undermanned are not cumulative with being uncontrolled (G2.2). The more severe penalty applies in each case.

(G9.45) CAMPAIGN EFFECTS: In the case of a Federation heavy cruiser with a normal crew of 430, only about 40 are actually required to operate the ship. The remainder include the marines (who guard things and provide boarding parties), engineers (who repair things that break down or wear out or perform preventive maintenance to keep that from happening), and scientists (who conduct experiments and make up landing parties to survey newly discovered planets). While a ship might be able to complete a battle with only a few dozen crewmen, it could not then proceed on a multi-year survey mission. See (G11.23) in the case of computer-controlled ships.
(G9.451) Ships with reduced crews may have various penalties specified elsewhere in the rules of this and other *SFB* products.
(G9.452) Ships with less than 1/2 of their original crew (not counting boarding parties, passengers, or deck crews in the original or remaining crew) conduct (D9.4) repairs with an assumed maximum damage control rating of "2" regardless of the actual damage control rating, and no repairs to the damage control track can be made.

(G10.0) THE THOLIAN WEB DEVICE

The Tholians are known to operate a highly developed tractor beam system generally referred to as the "web." This device is used both to capture enemy ships and to restrict movements and maneuvers. While based on tractor technology, it is not a tractor beam; web generators cannot be used as tractor beams and web produces no tractor effects.

The Tholians have been known to maneuver asteroids around their bases as anchors for webs. Laying webs around these stations thus renders them invulnerable to most weapons, unless the attacking ships allow themselves to be trapped in the web so that they can fire out of the web hexes. In some cases several layers of web are placed around a base, creating the famous "Tholian three-tiered wedding cake." Forces attacking such bases must place themselves into the outermost layer of the web so that they can attack (and destroy) the ships reinforcing that web, then must endure Tholian fire until the web loses enough strength that the ships can advance to the next web and repeat the process. If the attacker has all of his ships trapped in the web and the Tholian can destroy or damage enough of them to create a blind spot where a ship can power that web, the attackers will all be trapped. The procedure is somewhat similar to peeling an onion, and equally as unpleasant.

Players may utilize various unused counters to represent web. Web counters are provided in *Star Fleet Battles Captain's Module R4*.

Web generators are marked "WEB" on the SSD and are destroyed on "Flag Bridge" hits.

(G10.1) TYPES OF WEBS

The device can form two types of web: linear or globular.

(G10.11) LINEAR WEB: A linear web extends between two anchor points (G10.13). These may be asteroids, anchor buoys, or ships (including, possibly, the ship or ships that laid the web).

(G10.111) If formed between or by two ships, they must begin in adjacent hexes and move apart in a straight line. Later if one ship (or both ships) enters an asteroid (or other qualifying anchor terrain) hex, the web may be anchored to the asteroid hex by simply laying a web in the asteroid hex. (This anchor is assumed unless stated otherwise at the time.) A ship assuming anchor status in an asteroid hex could specify that it was (or was not) concurrently relieving the asteroids of this status. See (G10.1314) when relieving a destroyed asteroid of this status. See (G10.115) for sideslips while laying web. The ship and the asteroid can simultaneously be anchors in the same hex.

(G10.112) If one ship lays the web, it must begin doing so in a hex with a valid web anchor [perhaps an asteroid (P3.34) or by laying a web anchor buoy (G26.0)], anchoring one end of it to that anchor. See (G10.1314).

(G10.113) If, at any time, a segment of web is not anchored on both ends, it dissolves instantly. Note the exception created by free-standing webs (E12.22).

(G10.114) A web cannot be anchored to a planet that has an atmosphere. A web can be anchored to a planet or moon without an atmosphere by the same procedure as anchoring to an asteroid. A web cannot be attached to an object on the surface of a planet with an atmosphere or to an object in an atmosphere.

(G10.115) The web must be laid in a straight line. A regular pattern of sideslips (3A, SS-B, 3A, SS-B) will be considered as a straight line, as will the straightest practical chain of hexes between two points. The web cannot be bent to touch itself at any point; each hex can only be adjacent to one or two other hexes, and if two hexes, they cannot be adjacent. Two segments cannot be joined if they would violate this rule unless there is a valid web anchor at the "corner." If that anchor is destroyed or loses its status, the web would collapse because the two linked segments could not exist without the "corner anchor." Globular web (G10.12) is of course an exception.

(G10.116) Web anchor (G10.13) status is governed by these rules.

(G10.1161) The ship can enter a web hex and announce it is assuming web anchor status, or another Tholian ship can move into its hex while laying web and anchor it to the ship. Anchor status can only be assumed or voluntarily dropped during the Ship Systems Function Stage and cannot be changed within eight impulses. This status must be announced. If an anchor is destroyed, a Tholian ship within that web segment could assume web anchor status immediately (out of the normal sequence). [Anchor status would be adopted involuntarily if the ship became an anchor for cast web under (E12.21), even if less than eight impulses after having dropped that status, but the ship could not voluntarily change status again within eight impulses. Status would be changed involuntarily if the ship-now-anchor moved in a manner that was not legal for laying or extending web and the web collapsed.]

(G10.1162) Ships laying web serve as the anchor of that web unless and until they pass this duty to another anchor. If a ship laying web moves out of a web hex without laying web in the new hex, it has given up anchor status.

(G10.1163) A valid web anchor point (ship, shuttle, PF, asteroid, web anchor buoy) in a web hex cannot be tractored, even in a zero-strength web (G10.24). A unit serving as an anchor cannot be displaced (G18.671). See (G16.682) for an anchor in stasis.

(G10.1164) If a ship serving as a web anchor is captured (D7.538), it immediately loses its status as an anchor.

(G10.1165) In order for a web to remain intact after an intermediate anchor point is lost (G10.117), the web between the two anchors must be a legal and valid web within the definitions of (G10.115). If the lost anchor formed a "corner" with the two web sections not exactly 180° apart, the web would collapse. A valid anchor point at a sideslip hex (G10.115) would not be a corner. Note that web laid with a consistent pattern of side-slips is considered to be a straight line for this purpose, even though several hexes along its length will not be exactly 180° apart.

(G10.1166) Certain shuttles can serve as anchors of zero-strength webs. See (G10.24).

(G10.1167) A ship serving as a web anchor cannot move except to lay, extend, or shorten the web. A ship might be required to stop before assuming anchor status. A ship or other unit serving as a web anchor cannot use EM (C10.51).

(G10.1168) There can be more than one anchor in a given hex.

(G10.117) If a section of web has several anchors, and one of them is destroyed or releases itself, the web section will collapse immediately unless it can exist as a valid web without that anchor. (For example, if there is an anchor to either side of the destroyed anchor and the two segments form a straight linear web, they can hold the section. If the end anchor is destroyed, the web will immediately collapse from that point to the next anchor.) Web strength points in a collapsed segment are lost; they do not flow into connected non-collapsing segments.

(G10.118) EXTENSION OF WEBS: Webs can be extended by either moving one of the anchor points or by laying an additional web to one of the anchor points.

(G10.1181) End anchor points which are self-mobile (i.e., ships) can simply move [maintaining the same pattern of sideslips as per (G10.115)] and lay additional zero strength web as per (G10.211). At the instant that this happens, the entire web strength must be recalculated, using the total number of web strength points and the new number of web hexes.

Example: A web ten hexes long with a strength of seven (total 70 strength points) is extended to eleven hexes in length. The 70 strength points are then divided by eleven hexes resulting in an overall strength of six points per hex with some fractional points left over (G10.31).

(G10.1182) Non-moving anchor points (e.g., web anchor buoys and asteroids) cannot be moved. To extend these webs, a ship must enter the end hex of the web, assume anchor duties (it could recover a web anchor buoy as per the rules), and then use the procedure in (G10.1181).

(G10.1183) An additional section of web can be laid to a given anchor point. At the instant that the ship laying the web lays web in a hex adjacent to the anchor point, the two web sections are joined and the strength of the web must be adjusted for the new length.

(G10.1184) The reverse of the procedure in (G10.1181) can be used to shorten (and effectively strengthen) a web. A ship serving as an end-anchor point would simply move into the adjacent web hex, shortening the length of the web by one hex. The total strength points would then be divided by the new shorter length and produce a higher effective strength. If this strength exceeds the limit of 35 points per hex, any excess strength points are lost. Should the web later be re-extended, the original laying cost must be paid again.

(G10.1185) Corner and intermediate anchor points cannot be moved. If their status later changes to that of an end anchor, they can be moved as above.

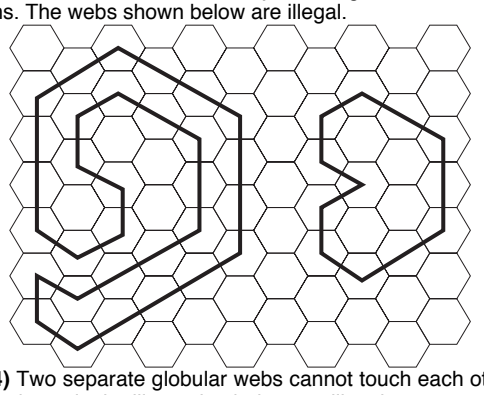
(G10.1186) There is no procedure by which a web can be divided into two segments or that a segment between two anchor points of a multi-segment web could be dropped. The closest a player could come to this would be for a ship serving as a corner anchor to drop its anchor duties, causing both segments to collapse (G10.117) and, perhaps, opening a gap in a much longer multi-segment web.

(G10.12) GLOBULAR WEB: A globular web is laid in a circle and is then anchored to itself. There is no way to convert a linear web into a globular web.

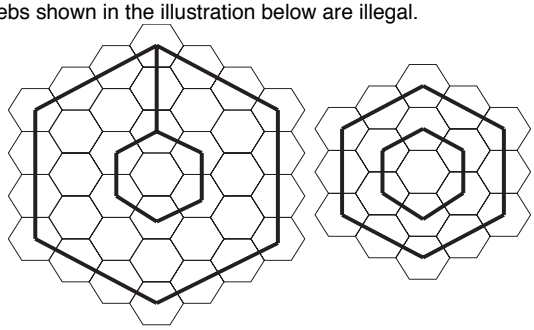
(G10.121) Two ships are used to lay a globular web. They must begin in adjacent hexes and move to form a circle of the web (for example, hexes 0804, 0905, 1005, 1006, 1007, 0908, 0808, 0708, 0607, 0606, 0605, 0705 form a globular web). A legal anchor point (G10.13) can be substituted for one of the two ships. Note that some units (G10.24) can only anchor web of zero strength. A zero-strength globular web in the process of formation can contain corners that would be illegal for a linear web. See (G10.125).

(G10.122) A globular web cannot contain two or more loops.

(G10.123) A globular web can be a circle or an oblong, but cannot contain convex angles (viewed from inside). When tracing the web in a clockwise manner, the web can only make right-hand turns, not left-hand turns. The webs shown below are illegal.



(G10.124) Two separate globular webs cannot touch each other. The two webs shown in the illustration below are illegal.



(G10.125) Globular web cannot be reinforced; it must remain at zero strength until the circle is closed and it is anchored to itself. Each globular web hex must be adjacent to two (only two) web hexes.

(G10.13) ANCHOR POINTS are used to hold each end of a web, giving the web energy something to pull against. See also (G10.116).

(G10.131) Certain units can serve as web anchors:

(G10.1311) Tholian ships can serve as anchor points (G10.116). They are self-mobile and able to extend or shorten a web (G10.118). Any Tholian ship (including PFs) can serve as a web anchor so long as the ship has a Tholian crew unit on board [with or without a web generator; Exception: see (E12.21)].

(G10.1312) Bases and web anchor buoys (G26.0) can serve as anchor points but are not self-mobile.

(G10.1313) Web spinners (G10.24) can serve as anchor points only for zero-strength web.

(G10.1314) Certain terrain types (large and small asteroids, moons, and planets without atmospheres) can serve as anchors and cannot move. While anchors of this type are seldom where you want them to be, they cannot be destroyed. An asteroid (or planet) used as a web anchor cannot be destroyed because a "sack of rocks" is as effective as one large rock for this purpose. However, if the "destroyed asteroid" is relieved of anchor duties (G10.111), the small rocks disperse and the asteroid can no longer be restored to that duty. Both large and standard asteroids can be anchors. If the victory conditions require destruction of the planet or asteroid, this can be achieved even if the "sack of rocks" remains. Note also (G10.114). The rings (P2.223) of a planet that has them can be used as web anchor points and operate as asteroid anchors for all purposes.

(G10.1315) Nothing can be used as an anchor unless specifically provided with this capability. For example, the ships and bases of Tholian allies cannot be used.

(G10.132) Globular webs do not require anchor points, except that an anchor point of any type can be used during construction (G10.121).

(G10.133) Anchor points for linear webs come in three types:

(G10.1331) End anchors are in the last hex of web on that end of a line of web. These points can be moved under (G10.118) to extend or shorten web. Additional web segments can be laid to these end anchors. Note that asteroids and other terrain cannot be moved, at least not during a scenario, but a ship could assume anchor status and move the end point of the web. (Special scenario rules may allow asteroids to be moved.)

(G10.1332) Intermediate anchors are units in web hexes which are not end hexes but which are within a segment of web which would be legal under (G10.115) when judged from the position of the web to either side. That is, intermediate anchors are those the loss of which would not cause collapse under (G10.117).

(G10.1333) Corner anchors are units in web hexes which are the junction of two separate web segments, each of which is legal under (G10.115) but the combination of which is not legal in itself. For example, a hexagonal web with asteroids in each of the six corners is not a globular web but is, instead, a connected group of six linear webs. Because they are connected, they are treated as a single entity for the distribution of strength points. However, the destruction of a corner anchor (not possible in the case of asteroids) will result in the collapse of the two web segments attached to it. The Tholians sometimes establish webs in this manner to allow some segments to be dropped for tactical reasons. Such a web cannot drop its anchors and become globular. Any dropped anchor would cause the connected segments to collapse.

(G10.134) By definition, any web anchor must be in a web hex.

(G10.2) CONSTRUCTION OF WEBS

(G10.21) STEPS: There are two steps to the construction of a web. The first is the actual laying of the web, and the second is reinforcing it. Both steps require that the laying ship or ships have at least one operable web generator on board (of each ship).

(G10.211) To lay web in a given hex, the laying ship moves into it and expends six units of energy (from any source). Web is then said to have been laid in that hex. Newly laid web has a strength of zero (G10.3). All hexes of a given web must be adjacent to at least one other hex of that web (a globular web would, of course, have all of its hexes adjacent to two and only two other hexes). The first hex laid is considered an exception to the part of this rule that requires each hex laid be adjacent to at least one other hex of that web.

(G10.212) To qualify to reinforce a web, a given ship must either be in a hex of the web or adjacent to it. Any Tholian ship with an operable web generator (or snare or web caster) may use the system to reinforce any web. Note exception: free standing web (E12.232).

(G10.2121) No more than four units of energy may be added to a web as reinforcement during each impulse of a given turn by a single ship. Any number of qualified ships can reinforce the web on a single impulse. Any amount of energy (assuming it is available) may be added to the web as reinforcing energy within the limits of the rules.

(G10.2122) To add reinforcing energy to a web, the reinforcing ship must be adjacent to or in it during any impulses in which power is added. The reinforcing energy is credited to web strength at the end of the impulse in which it is added.

(G10.22) RESTRICTIONS: Webs may not cross over or connect, or they are considered a single web.

(G10.221) Globular webs may not include more than a single loop. They need not be perfectly circular.

(G10.222) Any two adjacent web hexes are considered connected.

(G10.223) Webs cannot be moved. (There is one scenario that allows this, but only after the web has been in place for considerably longer than any single scenario.)

(G10.224) It is impossible for any web hex to be adjacent to more than two other web hexes. A corner anchor cannot be a junction of three separate web sections. Any effort to lay web in a hex which is adjacent to two other web hexes cannot succeed. The energy used in any such attempt would be lost. Exception: The web hex needed to close a globular web or link two sections of linear web can be laid.

(G10.23) CONSTRUCTION CONDITIONS: Construction of webs is under these conditions.
(G10.231) A ship can lay several hexes of web in a given turn, limited only by power. If a ship lays two or more hexes of web during a turn, they need not be in consecutive hexes of the ship's movement but must satisfy other rules of web construction.
(G10.232) No web (including connected segments of several webs) can be more than 30 hexes in length. If a web 30 hexes in length is extended (G10.118), the extension will simply fail to happen. (If the anchor point moved beyond this distance, it would lose its status as an anchor.) Two webs cannot be connected if they would then have a total of more than 30 hexes of web. The attempt to lay web in the hex between the two segments would simply fail.

(G10.24) WEB SPINNERS: Certain units may assist in the laying of zero-strength web by drawing it from a Tholian ship or base (much like drawing string from a ball). The units in the game designed to do this include Spider-I and Spider-III fighters, the EW versions of other Tholian fighters, Tholian MRS shuttles, Tholian heavy fighters, and Scorpion interceptors. Any ship which can lay and reinforce web can also lay zero-strength web.

NOTE: There are no web spinners in *Basic Set*.
(G10.241) PROCEDURE: A web spinning unit starts in the same hex as the web generating ship. As the two units move apart, a web of zero strength is created in the hexes through which they move. The ship must pay the cost of generating each hex of web laid (by either unit). See (G10.211).
(G10.242) RESTRICTIONS: Web spinning units can assist in laying web but cannot generate their own. They can only lay zero-strength web from a unit able to generate web. Their primary function is to string web from the generator to an anchor point. They can transfer their duties as an anchor point to another qualified unit or object in the same hex. Reinforcement energy cannot be added until the web is anchored to a non-spinning unit. If the web-spinning or web-generating unit is destroyed before the web is otherwise anchored (unless another qualified anchor or spinner is in that hex and assumes the duty), the web collapses immediately. See (G10.43).

(G10.3) STRENGTH OF WEBS

The strength of a web is a function of the energy used to reinforce it and its size. (The initial laying of the web does not provide it any strength.) The maximum strength of any one web hex is 35; this limit does not increase with any advanced technology. Any excess fractional (or whole) points are lost.

(G10.31) PROCEDURE: Total the amount of energy added to the web as reinforcement, deduct any lost as deterioration (G10.41), and divide by the number of hexes in the web, ignoring all fractions. This is the strength of the web. The ignored fractions are not discarded; they may be accumulated and recalculated.

EXAMPLE: 23 units of energy have been added to a ten-hex web. Since 23/10 is 2.3, the strength of the web is two (the 0.3 is ignored). Later time, eight units of energy are added, and the calculation is 31/10, giving a strength of 3.1 which is rounded down to 3.0 (but the 0.1 is retained for future calculations just as the 0.3 was above).

(G10.32) IMPROVEMENTS: The Tholians continued work on their web technology and made improvements over the years.
(G10.321) By Y160, the Tholians made improvements that resulted in a more efficient method of adding energy to their webs. In scenarios after that time (Y161 and later), the strength of the web is equal to 1.5 times the strength calculated in (G10.31), ignoring any fractions.
(G10.322) The Tholians made another breakthrough in Y175. Starting with that year, the strength of the web is double that calculated in (G10.31), ignoring any fractions after doubling.

(G10.33) STRENGTH: The strength of a web will vary over time as more energy is added to it and as it dissipates. Energy must be allocated at the start of the turn (or be reserve power); any allocated but unused energy is lost. The specific unit that provides the reinforcing energy (G10.212) need not be announced.

EXAMPLE: A web five hexes long might have a strength of three at the start of a turn. During that turn, a ship moves adjacent to it on Impulse #4 and remains there for four impulses (since its speed does not require it to move for that many impulses). During that period of time, sixteen energy factors could be added. Thus, the web had fifteen energy points at the start of the turn and now (end of Impulse #7) has 31. The strength of the web at this time is six. Later (Impulse #9), a second ship moves by and spends two impulses adjacent to the web. It adds only six factors of energy (it can't spare more), bringing the web to 37 (strength seven) at the end of Impulse #10. An enemy ship enters the web on Impulse #12 and is trapped. It is moving at a speed of 24, so it will take it until Impulse #22 to have expended seven movement points. During that time, other Tholian ships arrive and add more power. The original reinforcing ship returns on Impulse #14 and stays by the web, but it has only nine units of power to add (46, strength nine at the end of Impulse #16). A PC arrives on Impulse #20. The enemy will be free on Impulse #24 unless more energy is added. The PC adds four units on Impulse #20, making the total 50 (strength ten, escape on Impulse #26). It then adds four units on Impulse #21 (54, still strength ten, still escapes on 26). The PC then adds three units (the last it can, due to power limits) on Impulse #22. Total is now 57, and strength is eleven. The enemy ship will escape the web on Impulse #27 unless another ship arrives to add more power to the web.

(G10.4) DETERIORATION OF WEBS

(G10.41) DETERIORATION: Web deteriorates over time. At the end of each turn, each web loses one aggregate strength point for each hex of web. (This will, in most cases, be offset by reinforcement energy.) Note that this will be 0.667 energy points from Y161-174 and 0.50 energy points in Y175 and later due to the effect (G10.32). See (G10.43).

(G10.42) PROCEDURAL EXAMPLE: At the start of Turn #6, a web that is twelve hexes long has 97 aggregate strength points, resulting in a strength of eight (points per hex). During this turn, ships add a total of 27 points of energy to the web, giving it an aggregate strength of 124. During the turn, the web was extended two hexes (now fourteen hexes long). At the end of the turn, the web lost one strength point for each hex of length, or fourteen energy points, giving it an aggregate strength of 110, which is divided over fourteen hexes to result in an effective strength of 7.857 which is considered to be seven. [In Y175, the web would have lost only seven points rather than fourteen and the result of 8.36 would have yielded sixteen points of web strength as fractions are ignored (G10.32).]

(G10.43) NEW WEB: A newly laid web hex is at zero strength (G10.3). It will dissolve in seven turns (224 impulses) if not reinforced to strength one. Thereafter it can be reinforced as per the rules. This also applies to web that has deteriorated to strength zero.

(G10.5) THE EFFECT OF WEBS ON MOVEMENT

(G10.51) SHIPS: The web is used to trap enemy ships or to restrict their movement. A ship which enters a web hex ceases movement until it leaves the web hex via (G10.511) or (G10.56) or the web deteriorates to zero strength.
(G10.511) For a ship (other than a Tholian ship) to leave a web hex, it must expend, over a period of 32 consecutive impulses, a number of movement points equal to the strength of the web. If it does, it moves out of the web (into an adjacent hex in the direction of movement within the normal rules) on the last such impulse, it can turn out of such a hex, but it cannot leave the hex by a side slip (G10.57).

EXAMPLE: A Klingon D7 enters a 24-point web hex during Impulse #14 of Turn #3, while moving at a speed of twelve. The D7 then accelerates on Impulse #15 (this was planned in Energy Allocation) to a speed of 24. During Impulses #15-#32, it accumulates fourteen movement points. During the turn, the Tholians increased the strength of the web to 26, but it deteriorated to 25 at the end of the turn. At the start of Turn #4 the Tholians increase the strength of the web to 28. The D7 continues moving Speed 24 initially, and accelerates to Speed 31 on Impulse #15, generating its fourteenth

movement point on Impulse #18. However, this is a total of 36 impulses so the ship does not move on Impulse #18. On Impulse #24, the ship accumulates its 22nd movement point on Turn #4, and can count the six movement points accumulated during Impulses #25-#32 on Turn #3. Thus, the D7 moves out of the web on Impulse #24 of Turn #4.

(G10.512) A ship trapped in a web is not "stopped" for purposes of using an SFG (G16.31); the ship must cease generating movement points to be "stopped" for this purpose. See also (G16.68).

(G10.513) Webs reduce the effective speed (C2.45). Being stopped in a web while still "moving" does not allow WW launch because WWs use the maneuver rate (which does not include web effects).

(G10.52) SMALL UNITS: Shuttles, fighters, and seeking weapons (including plasma torpedoes) move through a web using the same procedure as ships (G10.511). If the strength of the web exceeds their speed, they remain trapped (note that plasma torpedoes expending movement points while trapped in a web will become weaker).

(G10.521) If a seeking weapon enters a web hex that also contains its target, the weapon strikes the target immediately (as it would if the web were not there), ignoring the effects of (G10.593) in this case.

(G10.522) If a ship tractors a size-6 or smaller object in a web, the object will not be damaged by the ship's subsequent movement (although a friendly seeking weapon will go inert), but the tractor beam will break. The unit could be pulled out using (G10.56) with an assumed movement cost of zero, assuming it is not an anchor.

(G10.523) If a seeking weapon, on the impulse it could leave the web, makes an HET instead of actually moving, it is still in the web hex and while it has earned the right to leave the web hex on its *next* impulse of movement, if the web is strengthened in the interim the weapon may have to continue accumulating movement to leave the web. An HET performed earlier while in the web would not count as accumulated movement.

(G10.53) THOLIAN UNITS: Tholian units may move through webs without expending extra energy. Tholian auxiliaries (e.g., AuxCVs) count as Tholian units even if some were built by foreign powers.

(G10.531) Ships captured by or allied to the Tholians do not have this benefit. This ability can never be transferred to non-Tholians. (There is a solitary exception in the case of the TK5, which was built from the front half of a PC and the rear half of a Klingon F5. The Tholian portion of the ship provided the Tholian benefits.)

(G10.532) A Tholian ship, captured and operated by another empire, will not have this capability. This includes freighters, monitors, auxiliaries, etc.

(G10.533) A Tholian unit can voluntarily "forgo" this ability. Such a unit announces it is "forgoing" its passage ability at the end of the Movement Segment of any impulse and can reverse this at the same point in any later impulse, but cannot change this condition within eight impulses of a previous change. This condition and all changes to it must be announced. A Tholian ship that forgoes its web pass ability is treated as a non-Tholian ship (G10.51).

(G10.534) Tholian ships could assume anchor status (G10.116) while in a web hex to avoid being tractored, dropping the status when ready to move out of the hex. A Tholian ship can adopt this status even while held in a tractor, but given the Sequence of Play (move, change anchor status, tractor beams), it would be possible for the Tholian ship to be pulled out of the web before having a chance to adopt this status.

(G10.54) EFFECT ON WEB: If a ship moves through a web by expending the requisite power, the web itself is not affected.

(G10.55) LAUNCH: If a ship (or a base, FRD, or shuttle) is in a web hex, anything launched or undocked from it is caught by the web until it expends enough power to escape, as if it had entered the web hex from a non-web hex. This also applies to ships undocking from bases or FRDs.

NOTE: While webs were developed from tractors, they are not tractors for any purpose and (G7.94) does not apply.

(G10.551) A fast drone launched in a web hex would be destroyed at once (if the web was strong enough to inflict the required damage, and unless its target was in the same hex) due to (G10.593). Armor might allow the drone to survive if the web was not too strong; external armor could slow the drone down enough for it to survive.

(G10.552) A WW launched by a ship trapped in a web will function, but the ship will probably receive some collateral damage due to the lack of time for the WW to move away.

(G10.553) WW collateral damage (J3.3) will damage everything in the hex (except where noted), even if the hex is a web hex.

(G10.554) Two units in the same web hex can dock (if they could in a non-web hex). Formation of pinwheels (C14.0) is also possible. A shuttle, or fighter, in the same hex as a ship could land aboard by any means listed in (J1.6), or dock to a ship in the same hex under (C13.98). PFs can be landed onto PFTs in the same hex (K2.31).

(G10.56) PULLING A UNIT OUT OF WEB: One ship can attempt to pull another ship from a web with tractor beams by either of the following procedures. The pulling ship can be no more than one size-class smaller than the pulled ship; PFs cannot pull anything larger than a PF. The tractor link must exist for the entire time that pulling is taking place. A captured Tholian ship would be treated (by the Tholians) as an "enemy" ship. Anything not serving as an anchor, not just a ship, can be pulled out of the web. A drone or shuttle could only be pulled from a web by a stationary ship (G10.522).

(G10.561) The two ships can attach a tractor beam between themselves and operate as per [(G7.32) or (G7.36)] and (G10.511). If they have enough power to expend, they will be able to leave the web. This rule obviously cannot be used if the web is stronger than 31. (Movement must be in the same direction, and that direction is the direction that the two ships will move. One ship outside of a web could push another ship through a web, getting itself trapped in the process.) The tractoring ship must be in a hex adjacent to the tractored ship. See (C2.112) for additional data.

(G10.562) The two ships in adjacent hexes (one in the web and one out of it) can attach a tractor beam between themselves (or to each other) and expend an amount of power (not movement points) equal to the strength of the web through the tractor beam. This power can come from any source, but must all be expended in a single turn. Either ship can provide the tractor link; only a ship maintaining a tractor link can provide power. The result is that the ship in the web is pulled into the hex of the "pulling ship" outside of the web during the Movement Segment of the last impulse of the turn. This is an exception to the rotation rules (G7.7). This can be done at extended range (G7.6), but will take more power. If done at extended ranges (G7.6), the power will be reduced appropriate to the longer range before being applied to pull the ship out of the web. The ship pulled from the web moves only one hex, which will not take it into the hex of the other ship if the tractor link was established at longer ranges. Two ships in the same web cannot rotate each other out of that web.

(G10.563) The following procedure is used if one ship in a web hex is tractoring (or tractored by) an enemy ship in an adjacent hex outside of the web. The requirement that both ships be moving in the same direction (G10.561) does not apply in this case although the total movement energy (not movement points) must exceed the strength of the web. Extended tractor range (G7.6) cannot be used, although extended range could be used to hold the enemy ship and rotate it closer, at which point the procedure would apply. The trapped ship can either maintain the tractor link and use the (G10.561) procedure, in which case the ships just move (rather than one ship being pulled into the other ship's hex) or the trapped ship can put power into the tractor link (if it is the ship maintaining the tractor), in which case it uses the (G10.562) procedure, and is pulled into the hex. If neither ship can (or wants to) break the tractor link, the situation is resolved as follows:

(G10.5631) If the trapped ship is expending more movement points than the enemy ship, and the trapped ship is the same size class or larger, the trapped ship has the choice of pulling itself out of the web (into the hex with the other ship) or pulling the enemy ship into the web (in his hex). If the trapped ship is smaller, neither ship moves.

(G10.5632) If the enemy ship is expending more movement points than the trapped ship, and the trapped ship is the same size class or smaller, and the total movement points of both ships are more than the strength of the web, the trapped ship is pulled out of the web (into the hex containing the enemy ship). If the trapped ship is larger, neither ship moves.

(G10.5633) If the enemy ship is expending more movement points than the trapped ship, and the total movement points of both ships is not more than the web strength, neither moves.

(G10.5634) In any of the above cases, the trapped ship could rotate the enemy ship using (G7.7). The enemy ship could rotate

the trapped ship using (G10.562). Note that only the tractoring ship can control rotation, so the rotation examples assume that the rotating ship is the tractoring ship and the rotated ship is the tractored ship.

(G10.57) MANEUVERS BY TRAPPED SHIPS: A ship or shuttle trapped in web cannot use Erratic Maneuvers (C10.24). It can use emergency deceleration (C8.0), High Energy Turns (C6.0), and Tactical Maneuvers (C5.0). It can turn in accordance with the Turn Mode for its practical speed (C2.411), even though it is not actually moving. A Tholian ship that has not forgone its ability to move through web (G10.533) is never trapped in a web hex or under these penalties. The sideslip mode is reset to zero when the unit leaves the web.

(G10.58) DISENGAGEMENT: A ship cannot disengage (C7.0) by any means while trapped in a web hex or when completely surrounded by web hexes. It must break free of the web hex before it can disengage. See (C7.125).

(G10.59) DECELERATION CAUSED BY WEBS: When a ship enters a web, it (in effect) decelerates because of the effect of the web. If this deceleration is particularly violent, it can cause damage to the ship.

(G10.591) If the ship loses twelve or more movement points (that is, if the ship is moving at a speed of twelve or more AND the web has a strength of twelve or more), the ship must roll for a breakdown as if it had made a High Energy Turn. The breakdown roll is made upon entry to the web hex. [The (C6.52) breakdown bonus must be used if available.] Any breakdown cannot cause tumbling. Any increase in web strength or ship speed after the ship enters the web hex has no additional effect on the chance of a breakdown.

(G10.592) Each point of speed lost (after the first twelve) causes one point of damage on the ship's forward shield (or whichever shield entered the web first). See (G10.74) in the case of Andromedan ships. The ship cannot receive more damage than the amount of movement points countered by the web, e.g., a ship moving Speed 14 into a strength 30 web will only suffer (14 – 12 =) two points of damage. A ship moving Speed 15 into a strength thirteen web will only suffer one point of damage. If a ship moving Speed 12 or more strikes a web of strength twelve, the ship will take no damage. In all these cases the ship will roll for breakdown as a result of the impact (G10.591).

(G10.593) Drones and shuttles take one point of damage for each point of speed loss over twenty. They cannot break down. Shuttles can only reach this speed by using warp booster packs (J5.0); as these packs cause damage scored on the shuttle to be doubled, the impact could be quite lethal. Seeking weapons strike their targets before this procedure is applied; see (G10.521) and (G10.551). The drone or shuttle cannot take more damage than the amount of movement points countered by web, e.g., a fighter moving Speed 22 into a strength 30 web will suffer two points of damage [doubled to four points due to its warp packs (J5.0)]. A Speed 32 drone that entered a strength 21 web would only take one point of damage. Plasmas are unaffected by web impact (other than the movement points they use to cross the web resulting in warhead reduction).

(G10.594) PFs are treated as ships, but roll for breakdown and take damage after losing twenty movement points, rather than twelve.

(G10.595) The cost of EM or an HET is not added to the speed for this purpose. This damage is based on effective speed (C2.45).

(G10.596) This condition applies only to ships entering a web hex from a non-web hex. This also applies to Tholian ships which turn off their web crossing (G10.533) ability while in a web hex.

(G10.597) A Tholian ship that had not forgone its ability to move through web (G10.533) would be undamaged by entering such a web but would be subject to damage if it adopted anchor status. In the case of a new web suddenly created by a web caster (E12.0), a ship traveling at high speed might prefer to risk a High Energy Turn or perform emergency deceleration rather than slam into the web.

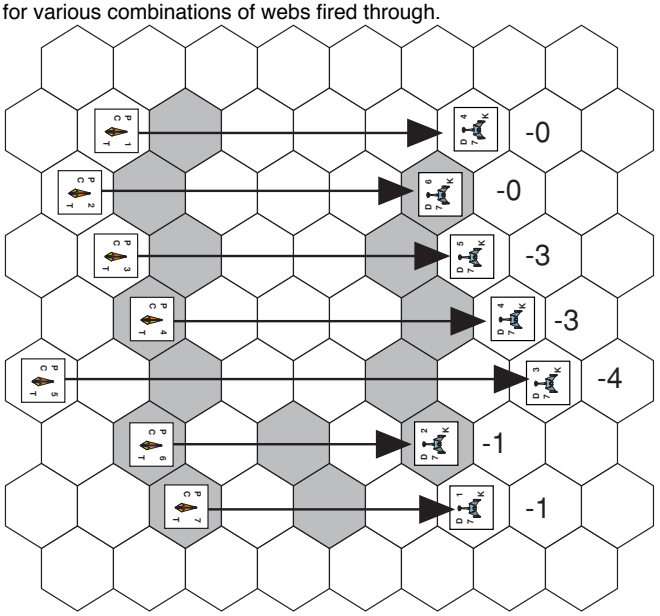
(G10.598) Objects (including ships) linked by tractor to a unit entering a web hex are not directly affected by this entry. They are not damaged, and the tractor is not broken. Units rotated into a web hex (G7.7) take damage at their effective speed.

(G10.6) THE EFFECT OF WEBS ON COMBAT

(G10.61) NON-THOLIAN WEAPONS: No direct-fire weapons may be fired through a web hex, if a hex has web in it, it is a web hex. Direct-fire weapons MAY be fired into or out of web hexes. Note that a ship may fire direct-fire weapons from a web hex into an adjacent web hex. If the strength of the web is zero, this rule does not apply. If the line of fire passes exactly along the edge of a web hex, it is not blocked unless both hexes bordering that edge are web hexes. PPDs cannot obtain or hold a wave-lock through a web. Stasis field generators cannot function through a web (G16.68).

EXAMPLE: A ship is in hex 1010, the target is in hex 0708, and hex 0909 is a web hex. A straight edge laid from the center of hex 1010 to the center of hex 0708 [the line of fire (D1.4)] will clip the corner of hex 0909, so the line of fire is blocked.

(G10.62) THOLIAN WEAPONS: Tholian ships may fire their phasers (not other weapons) through their own web hexes. The number of damage points scored by each phaser is reduced by one for each hex between the firing ship and the farthest web hex that the line of fire passes through (not just into), but the damage can never be less than zero. If several layers of web are crossed, use the one farthest from the firing ship. The illustration below shows the firing penalties for various combinations of webs fired through.



Ships captured by or allied to the Tholians do not have these benefits. This ability can never be transferred to non-Tholians. A Tholian ship, captured and operated by another empire, will not have this capability. Phasers removed from Tholian ships and installed in non-Tholian ships do not have the Tholian ability to fire through webs.

(G10.63) WILD UNITS: The effect of a wild SWAC (J9.2) or wild PF scout (K1.756) does not extend through a web or along the edge of a web hex. The effect of a wild weasel does.

(G10.64) SCOUTS: Tholian web does not block any scout functions.

(G10.65) PROBES: Probes (for information or as weapons) can be fired into or out of a web hex (G5.22), but not through one.

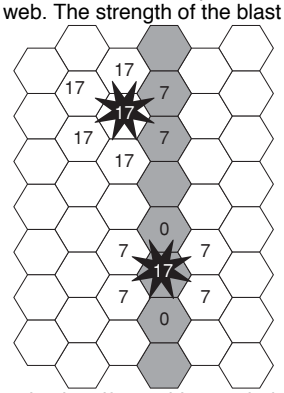
(G10.66) CONTROL: Webs do not block the control of command-controlled mines (M5.2), seeking weapons (F0.0), defense satellites (R1.15), MSS (M8.3), PFMs (M8.33), death riders (K7.0), and Probe drones in monster scenarios (FD6.22).

(G10.7) OTHER EFFECTS OF WEBS

The following rules apply to webs with a strength of greater than zero. Anything not listed here or elsewhere (e.g., labs, identifying drones, tactical intelligence, communications) is not affected by webs.

(G10.71) TRANSPORTERS AND TRACTORS: Transporters and tractor beams cannot function through web hexes. They may function into or out of web hexes. They may be used between two adjacent web hexes, even if both are in hexes of the same web, or one is outside a web hex and one is inside, or between two non-adjacent web hexes so long as the intervening hexes are not web hexes. Therefore, even if ship A pushes ship B through a web hex, entering a web hex itself, the tractor link will never be broken so long as the two ships remain adjacent. Ships can be rotated into but not out of web hexes; exception, see (G10.562). A ship that is serving as a web anchor cannot be tractored; see (G10.1163).

(G10.72) EXPLOSIONS: When a self-destruction blast occurs near a web, the blast may enter the web hex but it will lose one point of its strength for each strength point of the web. The strength of the blast in hexes on the other side of the web is reduced by the strength of the web. If the blast takes place in a web hex, THAT hex gets the full effect while other hexes are reduced accordingly. **EXAMPLE:** A seventeen-point self-destruction blast occurs in a hex adjacent to a web; an identical blast occurs in a web hex. The web in this case is ten points. The illustration below shows how many damage points would be scored on ships in each. The web is unaffected by the blast.



Each explosion is reduced separately, thus if two ships exploded for seventeen points each in the same strength ten web hex during the same damage resolution step the damage in adjacent non-web hexes would be fourteen and zero in adjacent web hexes.

(G10.73) ESG: An expanding sphere cannot be generated into or through a web hex. See (G23.85).

(G10.74) PA PANELS: Webs have no effect on power absorber panels (D10.0). If an Andromedan ship enters a web, it is affected by (G10.59) but does not absorb any power into its panels. Damage, while expressed as power points in what is absorbed by a panel, is not power *per se*. If an Andromedan hit a web of more than strength eleven while moving faster than Speed 11, it has to roll for breakdown as a result of the impact at that speed as per (G10.591). If the strength of the web was twenty and the Andromedan was moving Speed 20, then the Andromedan absorbs eight points of damage on (or through) its facing PA panels (it might, after all, have been moving in reverse) as per (G10.592). This eight points of damage might have been wholly absorbed by the facing panels (if they had the capacity), or only partially absorbed (if they did not have the capacity to absorb all of it). Any of the damage that could not be absorbed for whatever reason (panels could not hold it all due to previous power absorption, degradation, not being on, etc.) would penetrate as internal damage. It is possible that damage from a web collision could result in a "leak" point as any non-disruptor damage. [The amount of damage resulting from the collision with the web results in an amount of damage equal to three points per box of the panel bank and the bank must be reinforced to hold the damage (D10.331).]

(G10.75) TERRAIN: Web hexes do not protect ships from asteroids in the same hex. Webs can be laid in asteroid, planet (no atmosphere), dust cloud, radiation zone, ion storm, or heat zone hexes. Webs cannot be laid in planet (with atmosphere) (P2.0), black hole (P4.0), pulsar (P5.0), star, or nebula hexes (P6.0). Webs cannot be anchored to a comet (P16.0) or a tournament barrier (P17.0).
(G10.751) Web affects variable pulsars (P5.0) and black hole gravity waves (P9.0) as it would self-destruction (G10.72). If a gravity wave passes over a web, there will be a corresponding reduced strength segment of the gravity wave from that point forward.
(G10.752) A web cannot be laid or cast within ten hexes of a black hole (P4.0) but is otherwise unaffected by it. Web anchors cannot be pulled out of a web.
(G10.753) Ships trapped in a web might be pulled through it if the speed caused solely by the black hole was sufficient to overcome the strength of the web; see (C2.45) effective speed.

(G10.76) MINES: If a mine detonates in a web hex, it has full effect in that hex and is otherwise treated as a self-destruction explosion. A mine detonating adjacent to a web would be treated as self-destruction (G10.72). Multiple mine explosions are treated the same as multiple ship explosions, i.e., each is reduced independently.

(G10.77) CLOAKS: The case of a cloaked ship being exposed in a web (G13.45) cannot be used as an analogy. Entering a web hex does not affect passive fire control (D19.0), silent running (D17.75), wild weasels (J3.0), ECM (D6.3), and hidden ships (D20.0) and does not provide a lock-on for a ship that failed to achieve one (D6.12).

(G10.78) DISPLACEMENT DEVICES: See (G18.71) for the effects of web on displacement.

(G10.8) WEBS SET UP BEFORE A SCENARIO

It costs power to maintain webs (lots of it), and power ultimately costs money. Hence, webs are not maintained at maximum strength year in and year out on the off-chance that an enemy might decide to attack. Webs are kept at strength zero (using low-power generator buoys which do not function during combat) until a threat appears.

(G10.81) WEB POINTS: The value of web which was created before the scenario [as, for example, in scenario (SH6.0)] is calculated in terms of web points, each web point being equal to one hex of web at a strength of one (e.g., a web seven hexes long with a strength of ten would have 70 web points). A standard triple-ring web around a base [again, as in (SH6.0)] has 1,890 web points.

(G10.82) COST: Each web point is equivalent to 0.25 BPV points (or 472.5 points for a maximum-strength wedding cake).
(G10.821) Each large asteroid (P3.4) used as an anchor costs 25 points. (A wedding cake would need twelve for the outer rings, at a total cost of 300 points. Points can be saved by using a globular web.)
(G10.822) Web anchor buoys (G26.0) can be purchased to anchor web and deployed before the scenario begins. The cost is given in (G26.12). The cost of web anchor buoys deployed before a scenario begins are not included in the limit on Commander's Options (S3.2).
(G10.823) No points are received for web being destroyed.

(G10.83) AT-START STRENGTH: The strength of web at the point that the scenario begins varies with the weapon status. These rules assume that there are three layers of web, designated first (outer), second, and third (inner) in the order that the enemy will encounter them.

LAYER	WS-0	WS-1	WS-2	WS-3
1st	5	15	25	35
2nd	10	20	30	35
3rd	15	25	35	35
Total	420	960	1,500	1,890

(G10.831) The total line indicates the total number of strength points in a three-layer web with radii of one, three, and five. In the event that the players decide to set up other web arrangements than a wedding cake, these strength point totals dictate the number of web hexes and web points which are available for purchase.
(G10.832) All webs set up before the scenario begins must be globular or anchored by objects other than ships or mobile units.
(G10.833) Webs set up before the scenario begins cannot exceed the maximum strength given for the third layer. These strengths are maintained at WS-0 Conditions between scenarios by generator buoys which cannot function in combat conditions and cease to function once the scenario begins. In the case of the "buzz saw" (three spiral webs radiating from the base) all are treated as "2nd layer" webs.
(G10.834) The Tholian player may voluntarily reduce the strength of at-start webs to avoid paying the BPV penalty. As a tactical note, it would be better to reduce the strength of the inner web as this can be easily powered up by the base long before the enemy gets to it.
(G10.835) A surprised base (D18.0) would have zero-strength web.

(G11.0) SUPER-INTELLIGENT BATTLE COMPUTERS *(Optional)*

All the fleets depicted in the game have, at one time or another, experimented with "super-computers" capable of running starships without human assistance. All these experiments failed because the complexities of the programming exceeded the intelligence of the human programmers. All fleets continued to experiment with building computers capable of programming the larger computer.

No attempts were ever made to put super-computers on bases, PFs, interceptors, fighters, shuttles, mines, or DefSats. Super-computers can be installed on size class-2 and size class-3 ships only.

The following rules are used to simulate the effects of such a computer-controlled ship. Rule (G11.4) may cause the computer to fail at any point, resulting in a far worse situation.

NOTE: The terms "computer," "super-computer," and "super-intelligent battle computer" are used interchangeably.

(G11.1) ADVANTAGES

These advantages apply to a ship only when its computer is operating or in berserker mode (G11.42). Some apply during various malfunction periods. None apply once the computer has been destroyed, disconnected, or disabled.

(G11.11) ENERGY ALLOCATION: The player operating the computer ship fills out his Energy Allocation Form AFTER the other players have completed their EA Forms and movement/speed plots and have announced their speed and after the Initial Activity Phase. The computer ship performs all of its actions through the Initial Activity Phase at that point (already knowing the actions and data on the other ships revealed during those steps).

(G11.12) MOVEMENT: The computer ship moves last (Step #10) in the Order of Precedence (C1.313). If there is more than one computer ship, these move (relative to each other) within that order.

(G11.13) ERRATIC MANEUVERS: A computer ship can perform EM (at half the normal cost). See (G11.21) [item (G21.227) on the list] for an additional EW benefit. The computer has no effect on (C10.5).

(G11.14) HIGH ENERGY TURNS: A computer ship can perform HETs with a -1 die roll shift on all such turns it makes. This -1 bonus is not lost so long as the computer is operational, even if the ship has broken down or the computer has suffered a partial failure under (G11.41). The -1 bonus applies to all forms of breakdown, including, for example, (C3.61) and (G7.3222). The ship has the normal one-time HET bonus (C6.52) for a non-computer ship of the same class. After using the normal HET bonus or bonuses in (C6.52), an unmodified die roll of six always results in a breakdown.

(G11.2) CREWS

(G11.21) OUTSTANDING CREW: Computer-controlled ships are, in some cases, treated as if they had an outstanding crew. Computer-controlled ships have the following benefits of outstanding crews (G21.2):

(G21.211) Direct-fire weapons.
(G21.212) Extra electronic warfare.
(G21.213) UIM breakdown.
(G21.215) Probes as weapons.
(G21.222) Cost of HET reduced.
(G21.223) Nimble status when crippled (S2.4).
(G21.224) Six tactical warp maneuvers.
(G21.225) Greater chance of escape in (D21.56).
(G21.226) Quick reverse.
(G21.227) Efficient Erratic Maneuvers. See (G11.13).
(G21.228) Terrain avoidance.
(G21.231) Will have an MRS shuttle.
(G21.232) Improved repairs.
(G21.234) Mine detection.
(G21.235) Improved scout functions.
(G21.236) Improved tactical intelligence.
(G21.25) Scenario event die rolls.

They do not have the benefits of:

(G21.214) Plasma range.
(G21.216) Resistance to shock.
(G21.221) Extra HET bonus. Uses (G11.14) instead.
(G21.233) Spare shuttle.
(G21.241) Boarding party die rolls for human or robot BPs.
(G21.242) Pilot quality.
(G21.243) Efficient deck crews.
(G21.244) Anti-mutiny die roll. Uses (G11.25) instead.

(G11.22) REGULAR CREW: Computer ships have normal (human or whatever) shuttle crews, deck crews, boarding parties, and fighter pilots. See (G11.23) and (G11.26).

(G11.23) SMALLER CREW: A ship operated by the computer does not need as much crew. Reduce the crew to 1/3 of the original complement. (Retain all boarding parties and deck crews and do not consider them in the calculation. Shuttle and fighter pilots are also retained, although they never appear in crew unit calculations.) Life-support can function at minimum levels and costs no energy. A computer-operated ship is not penalized by (G9.42), but is subject to (G9.45). If additional boarding parties are purchased under (S3.2), half of them (round fractions up) are robots (G11.26).

EXAMPLE: A Kzinti CV has 50 crew units, of which six comprise the twelve deck crews and ten comprise the twenty boarding parties. The general crew of 34 is reduced to eleven (fractions less than 1/2 are dropped), plus the sixteen crew units of boarding parties and deck crews, a total of 27 units.

(G11.24) CREW CASUALTIES on a computer ship are scored on every 30th point of internal damage, superseding (G9.21). Boarding party and deck crew casualties are scored as on non-computer ships.

(G11.25) NO MUTINY: There can be no mutiny (G6.0) on a computer ship unless all security stations are destroyed *and* the computer is destroyed or deactivated. The computer does *not* control the security stations on Klingon ships; these are manned by the Empire Security Service as always. The security stations provide no bonus (D7.422) when fighting the computer itself (G11.342).

(G11.26) ROBOTS: The computer has the equivalent of ten boarding parties of robots to protect itself. These are in addition to the normal boarding parties (G11.23). Specific ship or scenario rules might specify a different number of robots. See also (G11.342).

(G11.261) These protect *only* the computer. They cannot be posted as guards, except in control boxes associated with the computer. (Indeed, they *must* be assigned to guard these boxes, and every control box associated with the computer must be guarded by robots unless there are not enough robots.)

(G11.262) They will participate in boarding party combat, but cannot be voluntarily given up as casualties unless the only other means of resolving boarding party casualties is to give up their associated control box. [If using (D16.0), they will fight only in the area of the control box they are guarding, although they will defend it during passage combat.] See (G11.342).

(G11.27) LEGENDARY OFFICERS (except Doctors, Marine Majors, and Legendary Ground Forces Officers) do not function on a ship with a super-intelligent computer; see (G22.124).

(G11.3) DESTROYING THE COMPUTER

(G11.31) DESTRUCTION IN COMBAT: If all control boxes on the ship, with the exception of emergency bridge boxes and security stations, are destroyed, the computer is destroyed and ceases to function. At that point, treat the ship as if it were a non-computer ship. The computer is not connected to the emergency bridge; crewmen are stationed there in case of emergencies. The security stations on a Klingon ship are manned by their normal crews. See also (G11.25).

(G11.32) HIT-AND-RUN IMMUNITY: The computer cannot be attacked directly by boarding parties or hit-and-run raids. These can attack the ship's control boxes; see (G11.31). There is a partial exception in (G11.342).

(G11.33) REPAIRS: Destroyed control boxes which are repaired during the scenario do not function as computer boxes. These should be marked in some manner (e.g., a • in the box) to aid players in keeping track of which boxes are qualified and which are not.

(G11.34) DEACTIVATION: In some situations (G11.4), the computer may have a "glitch" and operate in some undesirable manner. In such cases, the crew cannot simply deactivate the computer because the computer will defend itself against such deactivation. There are two alternative options:
(G11.341) OPTION #1: The crew can try to reprogram the computer. This can be done on Impulses #8 and #24 in the Final Functions Stage (6B11). To determine if this is effective, roll a die.

DIE	RESULT
1	Computer returns to normal operations immediately. Any effects of (G11.4) are canceled four impulses after the die roll.
2	Computer goes into reset mode. Ship operates normally, without the computer, until the end of the turn, at which point the computer resumes normal operations. Any effects of (G11.4) are canceled four impulses after the die roll.
3	Computer is deactivated and is ignored for the rest of the scenario (although its cost still counts for victory purposes). Any effects of (G11.4) are canceled four impulses after the die roll. The computer can be reactivated before the next scenario in a campaign.
4-6	No effect. Roll again at your option on the next opportunity.

(G11.342) OPTION #2: The ship's boarding parties can attack the computer (once per turn) and try to destroy it. Use the boarding party combat system in (D7.4); see (G11.26). The crew can form militia (which is disbanded when the computer is destroyed) as per rule (D15.83) [i.e., 50% of the smaller crew in (G11.23)]. After eliminating the robot boarding parties, the crew's boarding parties (and militia) must score ten "casualty points" on the computer itself (no SSD damage) before it is destroyed. [Specific allocation (D7.43) cannot be used.] Once destroyed, the computer cannot be reactivated (even between scenarios). After every attack by boarding parties, roll a die. If the result is "1," the computer immediately becomes a berserker (G11.42).

Enemy boarding parties can also attack the computer, but the computer will know who is attacking and, if it becomes a berserker, will attack enemy rather than friendly ships.

Note: (D16.0) is not used in the above procedure.
(G11.343) The crew cannot use the procedures of (G11.341) and (G11.342) on the same turn.

(G11.4) COMPUTER FAILURE

(G11.41) DETERMINING FAILURE: At the start of each turn, before Energy Allocation, the player operating the computer-controlled ship must roll one die to determine if the computer has failed, and if so, he must roll a second die to determine what form the failure will take.

CHANCE OF FAILURE		EFFECT OF FAILURE	
DIE	RESULT	DIE	RESULT
1	Failure	1	Fire Control
2	Failure	2	Weapons
3	No Failure	3	Shields
4	No Failure	4	Trans & Tractors
5	No Failure	5	Warp Movement
6	No Failure	6	Berserker

(G11.411) DIE ROLL 1: Active fire control is disrupted (D6.68) for the entire turn. Fire control can be reactivated (D6.633) at the start of the next turn (unless it fails again).
(G11.412) DIE ROLL 2: No weapons (Annex #7D) can be fired for the entire turn. Normal function returns on the next turn (unless it fails again).
(G11.413) DIE ROLL 3: The computer drops the ship's shields, which remain down for the entire turn and can then be raised on Impulse #1 of the next turn (unless it fails again).
(G11.414) DIE ROLL 4: Transporters and tractor beams fail to function for the entire turn. Normal function returns on the next turn (unless it fails again).
(G11.415) DIE ROLL 5: The ship cannot use warp power to move for the entire turn; the power can be used for non-movement functions. Normal function returns on the next turn (unless it fails again), although the ship will start at a speed of one or zero. Note that the speed of one assumes that a point of impulse power was allocated for movement.
(G11.416) DIE ROLL 6: The ship becomes a berserker. See (G11.42).
(G11.417) Any of the above effects will be canceled four impulses after the computer is shut down, reset, deactivated (G11.34), or destroyed.

(G11.42) BERSERKER: Under some circumstances, the computer decides (rightly or wrongly) that the crew on board and other ships of the same empire (fleet, alliance, etc.) are trying to destroy it. The computer is programmed to defend itself and is well capable of doing so.
(G11.421) The computer changes sides in the current scenario (i.e., the enemy player begins to operate it). If there is more than one "enemy" player, select one by die roll. The enemy player controls the computer and the ship; the original owners control the crew [which are presumably attempting to deactivate the computer under (G11.341) or (G11.342) as fast as they can, those being the only ways they can deactivate a berserker]. The computer will not drop its shields, although they could fail under (G11.413).
(G11.422) The computer will use its robot boarding parties (G11.26) to attack the crew (if the crew is not already attacking the computer). Roll for normal boarding party actions; the computer can use specific allocation (D7.43) but is not required to. If using (D16.0), the robot BPs will not leave the area they are in.
(G11.423) If all forces belonging to the original owner are destroyed or disengage, the computer will disengage and attempt to locate other former-owner forces to attack. (It will not "surrender" to the enemy that is now controlling it.)
(G11.424) The berserker ship continues to make die rolls under (G11.41). A die roll of six will cause the berserker to change sides (again), to the original owner in a normal two-side scenario, or to a third (or fourth, or fifth, etc.) power not allied to any of the previous owners or controllers. Once every side has controlled the berserker once, return to (G11.421).
(G11.425) The berserker ship is a unit of the controlling side for purposes of the friendly fire rules (D1.5). If the enemy (which now controls it) scores damage on the berserker, it will reset to normal mode and return to the control of its original owners (and will deactivate itself if told to do so).
(G11.426) The berserker will cut the tracking of any seeking weapon it controls targeted on units now friendly to the berserker. The berserker will not transfer control of seeking weapons (especially not to the original owner) or accept control of seeking weapons from any other unit (of the previous or current owner, or any other unit). A berserker will treat all SPs (other than those it is controlling) as a "non-friendly" SP for purposes of (FD7.47).
(G11.427) A berserker cannot order "enemy" (i.e., original owner) crew units to reload or arm weapons requiring crew unit actions (SPs, drone racks, plasma racks, etc.). Those "enemy" crew units cannot unload or disarm any previously loaded or armed systems.

(G12.0) SHIP SEPARATION *(Optional)*

Certain ships are able to voluntarily separate into two or more parts. Usually this is done as an emergency survival mechanism, not for tactical gain.

Sections (G12.1) through (G12.5) deal with the Klingon and Federation ability to separate booms and saucers. Section (G12.9) deals with Neo-Tholian ships (found in *Module C2).*

Section (G12.6) deals with any ship dropping its warp engines, presumably to allow sublight evasion.

SSDs for separated booms, saucers, and Neo-Tholian rear hulls are found in *Module D3*.

(G12.00) SEPARATION PROCEDURE

Ship separations can be performed under the following circumstances:

(G12.01) ESCAPE from a ship being destroyed under the provisions of (D21.43). In this case, the separated section begins functioning as per (G12.4) at the point of separation.

(G12.02) VOLUNTARY separations can only be done at the start of the turn. They are treated as an undocking (C13.21). The owning player announces the separation during the Speed Determination Phase and conducts it during the Initial Activity Phase. The separated sections then operate as per (G12.4) and (G12.5) and other appropriate rules.

(G12.1) KLINGON SHIPS

(G12.10) GENERAL: Most Klingon ships can separate the forward section, known as the "boom," from the remainder of the ship. The rear section then becomes unstable and cannot move until stabilized (G12.54), but the boom is a self-contained spaceship and can be used to escape from the area. Naturally, the boom is occupied by the captain, senior officers, and female personnel of impeccable genetic qualities.

(G12.101) This is usually done if the ship has been taken over by mutineers [assuming the officers have retained control of the boom (G6.25)] or if the ship is about to be captured or destroyed.

(G12.102) Emergency impulse or emergency warp engines (the small engines in the boom) cannot be used for movement unless the boom is separated; see (R3.R53), (H2.5), and (H3.5). They can be used to provide power prior before and after separation. They can be used for movement immediately after separation has occurred; see (G12.45). See (G12.111) and (G12.71).

(G12.103) All Klingon ships except those specifically excepted in their ship descriptions can separate their booms. (These are mostly small ships with no boom engines, such as the E4 and E3.) Pods, which have no booms, cannot separate boom sections; they can be dropped by the tug under (G14.0).

(G12.11) WARP POWERED BOOMS: The booms of the C8 and C9 dreadnoughts (and their variants) include the center warp engine. (The boom of the B10 battleship includes both center warp engines.) The DN boom is a fully-operational warp-powered starship. It operates normally and probably can escape its self-destruction blast without damage; use the procedure in (D21.54). If the warp-powered boom drops its warp engine, it operates as a sublight boom (G12.12).

Shields do not function until erected by (G12.331).

Certain other ships in later products have warp-powered booms.

(G12.111) Some Klingon ships have emergency warp engines (smaller than standard-size engines) in their booms. These include the penal ships (J-refit), the DX, the C7 heavy battlecruiser, and other ships noted in their descriptions. These are treated as warp-powered booms (except where noted), although they have far less power. See (G12.102) and (G12.71). See (D21.543).

(G12.112) Warp-powered booms must fulfill the same minimum-box requirements as sublight booms (G12.12), but need not have the required impulse engine.

(G12.12) SUBLIGHT BOOMS: Boom separation can be done only if at least one boom impulse engine box has not been destroyed, if one or more control spaces (G2.1) remain undestroyed in the boom, and if there are a specific number of undestroyed systems boxes in the boom area (including the bridge and engine boxes). This required number is:

B10	16
C8, C9	10
C7	8
D6, D7, Tugs, DX	6
D5 (including D5W)	5
F5, F5W, HF5, F6, E5	4
E4J	3

These values apply to all variants of these ships unless otherwise stated. Some ships added in later products will have the required number of boxes listed in their ship descriptions.

(G12.121) Warp-powered booms would have to drop their warp engines to be considered sublight booms; the dropped warp engines would not count for the requirements above.

(G12.122) Systems that have been repaired count as present for the table above.

(G12.123) Undestroyed warp boxes count for these size requirements unless the warp engines are dropped.

(G12.124) Inactive (G30.0) boxes count as present for purposes of the minimum box rule but NOT for purposes of the required control and engine boxes.

(G12.125) Sensor, scanner, damage control, and excess damage boxes do not count for the minimum box requirement.

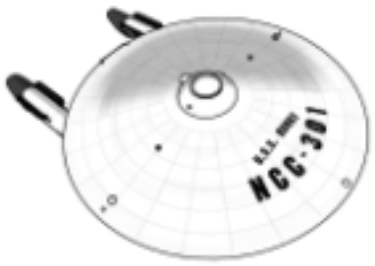
(G12.13) NOTE ON KLINGO-ROMULAN SHIPS: In Romulan ships converted from Klingon designs, the boom may never be separated. (The systems have been removed, not just deactivated.) The boom impulse engine on these ships has been replaced by an APR. This also applies to the D7H (R9.18) and all other captured or purchased Klingon ships.

(G12.14) REVISED FIRING ARCS: Discarding the rear hull of the ship improves the firing arcs for the phasers on Klingon booms substantially (since the hull no longer blocks this fire). These modifications are defined as follows:

(G12.141) BOOMS:

- B10 (and variants thereof): FX-firing phasers are unchanged (360° if warp engines are dropped). LS and RS phasers on variants are able to fire straight to the rear. On B10V and B10S LS and RS phasers can fire directly to the rear.
- C9, C8 (and variants thereof): LF+L becomes LS; RF+R becomes RS. FX-firing phasers are unchanged (360° if warp engine is dropped).
- C7, DX, D7, D6, D5, Tug (and variants thereof): FX phasers become 360°.
- F5, F6, E5, E4J (and variants thereof): FA+L becomes LS+RF; FA+R becomes RS+LF.
- Other classes: If other classes are added, this information will be listed in their ship descriptions.

(G12.142) REAR HULLS: Waist phasers and any rear-firing phasers are unchanged; wing-mounted phasers (D2.32) gain complete FA firing arc in addition to other arcs they previously had. RX phasers on F5 (and E4J) hulls become 360°. The RX phasers on the F6 become 360° except they cannot fire into the hex row directly ahead unless the center warp engine is also dropped. The firing arcs of the E5 do not change.



(G12.2) FEDERATION SHIPS

Most Federation ships with a saucer section can separate that section for use as a "space lifeboat."

(G12.21) WARP-POWERED SAUCERS: Federation DN/CVA (and variant) saucer sections may be separated from the remainder of the ship. The center warp engine remains attached to the saucer, allowing it to operate as a small starship. Shields function as per (G12.331).
(G12.211) Warp-powered saucers must fulfill the same minimum size (G12.22) requirements as sublight saucers.
(G12.212) Warp-powered saucers have an improved chance of escaping explosions or self-destruction (D21.54).
(G12.213) If the warp engine is dropped (G12.6), warp-powered saucers operate as per (G12.22).
(G12.214) Some Federation ships have small warp engines in the saucer. For example, the CX and BC have such an engine. These function in the same manner as the similar Klingon booms (G12.111), including restrictions against using these small warp engines for movement before separation.

(G12.22) SUBLIGHT SAUCERS: The saucer section of most starships can be separated from the remainder of the ship. Ships with this capability include the DN, CC, CX, CB, BC, CA, GS, CVS, and CVA (and all variant designs and refits built on these hulls; any new ships added will be listed in their ship descriptions). It might be noted that the intended purpose of the starship designer for this maneuver is to crash land on a planet with surviving crew members, but a desperate captain might use it to escape from an unsuccessful combat situation. All procedures and restrictions are the same, including dreadnoughts (where the center warp engine must be dropped for it to be considered as a sublight ship). The ship's impulse engines are used for power, as the emergency boom engine would be used in a Klingon ship.

Saucer separation can be done only if at least one impulse engine box has not been destroyed, if one or more control spaces (G2.1) remain undestroyed in the saucer, and if there are a specific number of undestroyed systems boxes in the saucer (including the bridge and engine boxes). This required number is:

BB, DN, DN+, DNG, CVA.....10
BC, CC, CB, CA, GSC, CX, CVS.....7

Some ships added in later products will have the required number of boxes listed in their ship descriptions.

See (G12.62) for tugs and LTTs.

(G12.221) Warp-powered saucers would have to drop their warp engines to be considered sublight saucers; the dropped warp engines would not count for the requirements above.
(G12.222) Systems that have been repaired count as present for the table above.
(G12.223) Undestroyed warp boxes count for these size requirements unless the warp engines are dropped.
(G12.224) Inactive (G30.0) boxes count as present for purposes of the minimum box rule but NOT for purposes of the required control and engine boxes.
(G12.225) Sensor, scanner, damage control, and excess damage boxes do not count for the minimum box requirement.

(G12.23) REVISED FIRING ARCS: Discarding the warp engines of certain ships improves the firing arcs for the phasers on Federation saucers substantially (since the engines no longer block this fire). The side phasers are now given a full 180° firing arc: LF+L becomes LS; RF+R becomes RS. Exception: Federation Tug (no changes).

(G12.3) RESTRICTIONS AND CONDITIONS

These restrictions and conditions apply to Klingon (G12.1) and Federation (G12.2) ships, and others as may be specified in various rules.

(G12.31) SELF-DESTRUCTION: If using self-destruction on the turn of separation, use the escape procedure (D21.5). If self-destruction does not take place during the turn of separation, assume that the escape procedure is automatically successful.

(G12.32) VICTORY POINTS: If a section separates, then the victory points for the ship are divided, with the amount assigned by the MASTER SHIP CHART assigned to the boom/saucer and the remainder to the remaining section.

(G12.33) SHIELDS: At the instant of separation (before any self-destruction takes effect), all shields on both the separated section and the main hull cease to operate. Shield reinforcement cannot be used until shields are restored.

Exception: Neo-Tholians (G12.9) operate differently.

(G12.331) Three turns (96 consecutive impulses) after separation, warp-powered booms (and saucers) may (at the owner's option) create shields of twenty in all directions (30 for battleships). These sections pay the energy cost appropriate to their size class for the shields (D3.32).

Booms and saucers with small warp engines (rather than standard-size engines) are treated under (G12.332), not this rule.

(G12.332) Three turns (96 consecutive impulses) after separation, sublight booms (and saucers) can erect shields of five boxes in all directions. There is no energy cost for operating these post-separation shields.

Klingon penal ships have shields defined in (R3.R53).

(G12.333) Damage scored on shields prior to separation is NOT applied to the minimum five-box) shields but is applied to the shields of warp-powered booms and saucers (including warp-powered penal booms).

EXAMPLE: A Federation dreadnought has received 27 damage points on shield #6 and fourteen hits on shield #2. Shield #1 has been destroyed. After separation, shields are reestablished. On the new shields, #1 and #6 are completely down, while #2 has only six boxes. All could be repaired up to their "full" strength of twenty. If the same damage had been scored on a Federation heavy cruiser prior to separation, the saucer's new five box shields would be erected intact.

NOTE: See (G12.54) for shields on rear hull sections. This post-separation emergency shielding can only be done by separated booms/saucers and hulls within the rules here. It cannot be done by other ships.

(G12.34) REATTACHMENT: Federation and Klingon sections separated from the main hull may not be rejoined during a scenario. Reattachment normally requires a shipyard overhaul, but can be done in space between scenarios with the services of a repair ship and considerable effort.

Neo-Tholian sections may be reattached during a scenario; see (G12.95).

(G12.35) TRACTORS: If a ship which has been tractored separates its boom/saucer, the opposing tractors remain attached to the rear hull section. Tugs which have been tractored cannot drop pods; see (G7.941).

(G12.36) COUNTERS for booms and saucers are provided in *Module R2* (Federation) and *Module R3* (Klingon) for the convenience of the players. While their most obvious use is as dreadnought booms, they may be used for those of other ships.

(G12.37) WARP-POWERED SECTIONS: Klingon warp-powered booms and Federation warp-powered saucers may drop their warp engines and be considered the same as other sublight booms and saucers. Note that the high electronic signature of the warp engines makes it impossible for these booms to use sublight evasion (G12.38) without dropping the warp engines. Warp-powered booms and saucers do not have an HET bonus (C6.522).

(G12.38) SUBLIGHT EVASION: Sublight sections can attempt to escape by sublight evasion (C7.3). It might be noted that the concept of "escaping" or "evading" enemy ships by this maneuver is based, in large part, on the reduced sensor signature of a smaller ship without warp engines (which create strong sensor images). A boom or saucer attempting sub-light evasion after separating due to Catastrophic Damage (D21.0) or self-destruction (D5.0) gains a bonus of -3 on the die roll in (C7.3).

(G12.39) SEEKING WEAPONS targeted on a ship which separates sections will remain targeted on the rear section. In the case of ships which drop warp engines, the weapons remain targeted on the ship.

(G12.4) OPERATIONS OF SEPARATED SECTIONS

Separated sections must be adjusted to operate as starships. These adjustments are as follows. Rear hulls operate under (G12.5).

(G12.41) DAMAGE CONTROL: All boxes on the damage control track with a number higher than two are eliminated on sublight sections. All boxes higher than four are eliminated on warp-capable sections (including those with only small warp engines). No previous damage is erased. See (G12.55).

(G12.42) EXCESS DAMAGE: The ship's original excess damage boxes are divided equally between the boom/saucer and the rear hull (unless specified otherwise in a ship description). Any odd points are distributed to the rear hull of Klingon ships and the saucer of Federation ships. Any previously destroyed excess damage boxes can be allocated by the owning player to either the boom/saucer or the rear hull.

EXAMPLE: The Federation DN has twelve excess damage boxes, and the particular ship in question has taken two excess damage hits. The saucer separates, and has six excess damage boxes (the other six remain with the rear hull). The two destroyed boxes can be allocated to either the saucer or the rear hull, and the Federation player elects to apply them to the rear hull.

(G12.43) SENSOR-SCANNER: The first box on the sensor track is marked destroyed (even if it already has been), and every second box (including destroyed boxes) down the track is also destroyed (except the last box). The same procedure is followed for the scanner track. The boxes which are marked "destroyed" are not in fact destroyed but are allocated to the rear section (G12.551), assuming that it still exists.

There are some specific exceptions to this in the rules, for example (R3.R53) and (G12.92).

(G12.44) OTHER COSTS: Sublight booms and saucers (including those with small warp engines, e.g., penal ships) operate life support, fire control, and shields without any energy cost. Warp-powered booms and saucers (those with full-size engines, even with some damage) pay the normal costs for these functions.

(G12.45) MOVEMENT: Separated booms and saucers move and otherwise function as ships (although most will, of course, be sublight ships) with the movement cost provided on the MASTER SHIP CHART (Annex #3). Rear hull sections are treated as per (G12.543).
(G12.451) In a voluntary separation (G12.02), the two sections operate independently for the entire turn.
(G12.452) In a separation as a result of escape (G12.01), the separated boom or saucer adjusts the EA Form of the ship as per (D22.0) (presuming the rear hull to have been destroyed). Note that the movement cost will be reduced.

(G12.5) REMAINING (REAR) SECTIONS

The remaining rear hull, after the boom or saucer separates, operates as follows. This rule applies to Federation and Klingon units, not to Neo-Tholian units (G12.93).

NOTE: Rule sections (G12.44) and (G12.45) also apply to rear hulls; these are additional restrictions.

(G12.51) REMAIN IN PLAY: Detached rear hulls remain on the board, and all seeking weapons targeted on the original (unseparated) ship remain targeted on the rear hull (G12.39).

(G12.52) INITIAL PERIOD: Detached rear hulls cannot move until stabilized. (They can use engines for power.) Their fire control is disrupted (D6.68). If the ship was moving at the time of separation, the rear hull stops immediately; this is not emergency deceleration.

(G12.53) OTHER ACTIONS: Detached rear hulls can take all other actions that any other ship can within the limitations of this section. They fill out an Energy Allocation Form.

(G12.54) STABILIZATION: After two complete turns (64 consecutive impulses) have elapsed, the situation in the rear hull will have stabilized, allowing the following actions.
(G12.541) Stabilized detached rear hulls can raise minimum five-box) shields (even if shields had previously been destroyed or damaged).
(G12.542) Stabilized detached rear hulls can fire phasers, launch drones and shuttles, and fire anti-drones. Other weapons cannot be fired or launched.
(G12.543) Stabilized detached rear hulls can move under impulse power (maximum speed of one hex per turn). Rear hulls without impulse engines obviously cannot move under impulse power.

(G12.55) TRACKS: The tracks on the rear hull are as follows:
(G12.551) The sensor and scanner tracks are created by taking the ship's original tracks and deleting those boxes which are part of the boom/saucer (G12.43). Note that the last box on the sensor and scanner tracks is on both elements.
(G12.552) The excess damage track is created as per (G12.42).
(G12.553) The damage control track for rear hull sections is 2-0. If all damage control boxes had been eliminated before separation, the track is a single 0 box.

(G12.6) DROPPING WARP ENGINES

(G12.61) PROCEDURE: Any ship, including a warp-powered boom or saucer, can drop its warp engines at the end of any turn during the Final Activity Phase. This is often done to facilitate sublight evasion; see (C7.3). The ship must drop all of its warp engines, or none of them. The dropped warp engines do not remain in play and cannot be recovered during the scenario. No rules currently exist for recovering dropped engines between scenarios.

(G12.62) FEDERATION TAILLESS SAUCERS: Note that Federation ships with saucers but without secondary hulls (e.g., NCL, DD, SC, DW, FF, Tug, and variants thereof) do not "separate sections" but simply drop warp engines. They are not treated as separated saucers. In the case of catastrophic damage (D21.43), these types of Federation ships could not "escape" (D21.433) because they have no major element to leave behind. They do not use (G12.22). There is a partial exception for tugs and LTTs in (D21.434).

(G12.63) FIRING ARCS: Note that dropping a ship's warp engines will probably improve the firing arcs of its weapons. This must be determined, however, on an individual basis. A few examples are shown in Annex #7T.

(G12.64) WEAPONS: As indicated on the various SSDs, many weapons are mounted in engine nacelles; these are lost when the engines are dropped. Examples include the Romulan War Eagle (ph-3s), Klingon D7 (disruptors), Romulan KR (plasma torpedoes). SparrowHawks lose the engines (and the plasma torpedoes on the engines) but not the modules. See the listing in Annex #7T for more examples.

(G12.65) WARP-POWERED NIMBLE SHIPS lose their nimble benefits if they drop their warp engines (C11.31). Sublight nimble ships, e.g., Romulan Snipes (R4.42), are always nimble.

(G12.7) ADDITIONAL CONDITIONS AND RESTRICTIONS

(G12.71) KLINGON CIRCUIT BREAKERS: Klingon ships that have not separated can take the emergency boom impulse engine out of service. **NOTE:** Only Klingon ships get this benefit; Federation, Tholian, and Romulan KR ships cannot do this. Any other ships with this ability will be noted in their ship descriptions. Not all Klingon SSDs list this as an "emergency" engine; it applies to any impulse or small warp engine in the boom section. Klingon ships captured or purchased by another power cannot use this rule; see (G12.13).
(G12.711) This is done during the Energy Allocation Phase of each turn; to take this engine out of service, simply note this fact and do not use power from that engine on that turn. The engine can only be brought back into service at the start of a later turn or when the boom separates.

(G12.712) The engine cannot be destroyed by combat damage (hit-and-run raids could destroy it) while out of service.
(G12.713) The emergency boom warp engines on penal ships, the C7, the DX, and other ships with small boom warp engines can also use this rule. Multi-box engines must be entirely shut down or left entirely active. Full-size warp engines (e.g., C8, C9, B10) and medium-sized engines (e.g., D5W in *Module R5)* cannot use this rule.

(G12.72) SHIP SELECTION: When selecting ships for a battle on a point basis, players may not select separated sections. Klingon booms, Federation saucers, and Tholian modules cannot be voluntarily chosen for use in a scenario. Mutual consent of all players can create an exception to this rule. Also, some published scenarios have separated sections that are fleeing from previous battles. Some ship descriptions may provide other exceptions.

(G12.73) HULL DESIGNATION: Hull on all separated sections is treated as "center" hull (G3.23). Both sections retain the seeking weapon control ability of the original (intact) ship.

(G12.8) DISTRIBUTION OF NON-SSD ITEMS

(G12.81) CLOAK: The cloaking device (if any) is in the boom/saucer section in the same area as the Emergency Bridge. If there is no Emergency Bridge, it is in the same area as the main bridge.

(G12.82) UIM-DERFACS: The UIM is a device located in the boom section. DERFACS is a computer software/hardware system in the boom section. These systems are in the same area as the main bridge. On Neo-Tholian ships, these systems are in the rear hull and are associated with auxiliary control. If the boom or Neo-Tholian rear hull in question has disruptors, these fire control systems can still be used.

(G12.83) T-BOMBS: Transporter bombs and transporter artillery rounds are stored in the rear section for all separated ships.

(G12.84) DRONES: Drone storage not otherwise designated [see (FD2.43) and (FD2.44)] is assumed to be evenly divided between the various drone racks. On carriers, the storage for use by fighters is in the section with the shuttle bay (and is divided between the bays in proportion to the number of fighter boxes in each bay). Type-D plasma torpedoes are treated as drones for this purpose, although there is no ship currently in the game which can separate sections and is armed with this weapon.

(G12.85) CREW: What proportion of the crew escapes with the separated boom or saucer depends on the circumstances of the separation.
(G12.851) In the event of a separation during escape (G12.01), rule (D21.431) governs the crew.
(G12.852) In the event of a voluntary separation (G12.02) while enemy boarding parties have complete control of the rear hull, only the boom/saucer crew listed on the Master Ship Chart (Annex #3) is able to escape in the boom/saucer. This circumstance (enemy complete control) can exist only if using (D16.0) or if (G6.25) has been invoked.
(G12.853) In the event of a voluntary separation (G12.02) when the enemy does not have complete control of the rear hull, use the provisions of (D21.431), even if not using (D21.0).
(G12.854) Enemy crew units and boarding parties on board are defined by the circumstances. If using (D16.0), that rule will provide the data (based on the areas occupied by specific units). If not using (D16.0), all enemy crew units are presumed to be in the rear hull if a voluntary separation and to be divided in proportion to the friendly crew units if a separation during an escape.

(G12.86) CONTINUOUS DAMAGE REPAIR can be used by the boom/saucer to the extent that any unused portion remained prior to separation. Any portion of the original allotment which exceeds the damage control rating of the boom/saucer is allocated to the rear hull.

(G12.87) DOCKING POSITIONS: Docked ships can separate sections (C13.945). The docking position indicates if the docking station is in the forward or rear section.

Section	Boom/Saucer	Rear Hull
Federation	6-1-2	3-4-5
Klingon	1	2-3-4-5-6
Neo-Tholian	6-1-2	3-4-5

(G12.88) KLINGON BOOMS: Aegis systems in Klingon ships with separable booms are tracked as follows: Non-carrier escort Klingon ships (most D5s, B10s, and the B11) leave the system in the rear hull. Carrier escort versions of Klingon ships have aegis in both the rear hull and the boom, but cannot use it unless they raise full fire control. Aegis on Federation ships goes with the saucer.

(G12.9) NEO-THOLIAN SHIPS

Neo-Tholian ships, in *Module C2* and *Module C3*, can separate their command modules for independent operations. This section will not be used unless you have *Module C2* or *Module C3*.

The two sections of a Neo-Tholian ship are each fully-capable starships able to operate independently, not emasculated cripples trying to survive.

(G12.91) COMMAND MODULE: The command module is a warp-capable starship. To qualify for separation, it must have at least one engine box, one control box, and six other boxes undestroyed (not counting sensor, scanner, damage control, or excess damage). This applies to all types of command modules; external fighter bays do not count for this purpose. Rules (G12.122) thru (G12.125) apply.

(G12.92) TRACKS: When separated, the command module has a sensor rating of 6-4-0, a scanner rating of 0-2-9, a damage control rating of 2-2-0, and three excess damage boxes; see (G12.98) and (G12.93). It can erect shields of ten boxes after 32 impulses. Damage control capability of the separated sections is treated under (G12.86).

(G12.93) REAR HULL: The rear hull section remains as a fully functional starship, even without the command module. It can fire weapons and move normally. Its movement cost is not reduced; the additional energy is required to maintain balance. The shields are never dropped or reduced.

The sensor/scanner/damage control tracks are unchanged; the excess damage is reduced by three (G12.98). These rear-hull sections ignore (G12.5).

(G12.94) FIRING ARCS: No firing arcs change on the rear section after separation. The FH phasers on the command module become 360°.

(G12.95) PROCEDURE: Separation is accomplished as in (G12.0), including all effects (seeking weapons, tractors, catastrophic damage, etc.). Reattachment is conducted as a docking (C13.0).

(G12.96) HULL: The hull boxes on separated sections are considered "center" hull (G3.23).

(G12.97) DEFINITION: A command module with at least one working warp engine box is considered as a warp-capable section.

(G12.98) PRIOR EXCESS DAMAGE is divided between the two sections at the option of the owning player. Once this division is made, it cannot be changed if the sections later redock.

(G12.99) CRITICAL HITS in effect on a Neo-Tholian ship remain in force on both sections if it separates (D8.0). If a Tholian Command module docks to a rear hull, and either is under the restrictions of a critical hit, the effects of that critical hit apply only to the section that was originally affected, although a Command Module could attempt to repair the critical using the improved damage control rating of the combined ship.

(G13.0) THE CLOAKING DEVICE

Most Romulan ships (and some Orions) are equipped with this device, which makes detection of the ship almost impossible. However, while the ship itself cannot be seen, the effect of its magnetic field on light from the background of stars can be seen and will give at least a general idea of where the ship is. This invisibility comes at a price: the ship cannot fire weapons while cloaked. Even worse, if the ship is accurately spotted, it could be badly damaged by enemy weapons while trying to uncloak.

Romulan ships use the cloaking device to make secret approaches to enemy forces, to escape after an attack, and to protect themselves while reloading their plasma torpedoes during a battle.

(G13.1) OPERATION OF CLOAKING DEVICE

The cloaking device is operated by these rules.

(G13.11) OPERATION: The cloaking device can be turned on or off during the Activate/Deactivate Cloaking Device Step of the Cloaking Device Stage of any impulse.
(G13.111) Turning the device on begins the fade-out procedure (G13.14).
(G13.112) Turning the device off begins the fade-in procedure (G13.15).
(G13.113) A cloaking device can only be turned on one time during each turn and can only be turned off one time during each turn. No unit can have more than one cloaking device.
(G13.114) If the device is activated or deactivated near the end of a turn, the fade-in/fade-out effect carries over into the next turn. This does not count against the next turn for purposes of (G13.113).
(G13.115) The player can stop/reverse the fade-in or fade-out process during any Cloaking Device Stage, but the ship must then fade back out (or in) the same number of impulses that it had has already faded in (or out). The combined action counts as the only fade-in and fade-out allowed during that turn. The ship cannot stop at a point partially faded-in/out and await developments, but must either complete the process or reverse it. Once reversed, that specific fade cannot be reversed again. If a fade-in is reversed, the ship does not pay for a second activation of the cloaking device.

EXAMPLE: A Warbird turns its cloaking device off on Impulse #10 (+5), fading in during Impulses #11 (+4) and #12 (+3). During the movement portion of Impulse #13, Federation reinforcements arrive and the Romulan player decides to "take her down" (i.e., cloak) again, announcing this in the Cloak Stage of Impulse #13. Reversing his fade-in, the ship fades out on Impulses #13 (+4) and #14 (+5) and is fully cloaked on Impulse #15.

(G13.116) If a cloaked ship does not allocate energy for cloaking, it begins fade in during Impulse #1 of that turn. It does NOT become fully uncloaked immediately. Not allocating the energy to continue operating a cloaking device during Energy Allocation counts as turning the device off for that turn (G13.11); fade in begins on Impulse #1.
(G13.117) If the ship was cloaked on one turn and pays the energy during Energy Allocation to continue the operation of the device on the next turn, the ship remains cloaked. It is not exposed at the end of each turn while the captain reallocates the ship's energy.
(G13.118) A cloaking device may be involuntarily deactivated under certain circumstances: e.g., destruction by hit and run raid (D7.85), lack of power resulting from energy balance due to damage (D22.0). In these cases, the effect of being cloaked is lost immediately and fade-in begins on the next Cloak Stage. For example:

Impulse #20 Movement Segment: Cloaked ship strikes mine. Enemy achieves lock-on.
Lock-On Stage: Enemy rolls (G13.331) and retains lock-on.
Marines Activity Stage: Enemy launches successful hit and run raid to destroy cloak. Ship is uncloaked.
Direct Fire Weapons Segment: Enemy fires at the cloaked ship, with the +5 range penalty from (G13.302) and the fire adjustment (G13.303) with the modifier in (G13.361), but not the no lock-on penalty (G13.301). The destruction of the cloaking device actually had little immediate effect as the enemy ship already had a lock-on.
Impulse #21 Cloak Stage: The range penalty (G13.302) is reduced to +4.

(G13.12) INDICATION, KNOWN DATA: When the cloaking device is operating, the ship remains on the map, but an unused counter is placed on top, upside down, to mark it. Special "cloaked" markers are included in more advanced *SFB* products.

NOTE: This counter is used simply to mark that the unit is cloaked; it does not obscure the counter of the cloaked ship and does not conceal its identity or facing or the status of its turn or slip modes. See (D3.543) for shields. See (G13.61) for an optional alternative and (D17.51) if using tactical intelligence.

(G13.13) FIRE CONTROL: While the device is active, the ship cannot have its fire control systems in the active mode. See (G13.51).
(G13.131) At the instant that the cloaking device is activated (and fade-out begins), the fire control is turned to the inactive mode (D6.614). Fire control is also deactivated if a fade-in is reversed (G13.115).
(G13.132) When the cloaking device is turned off (and the fade-in begins), the owning player may, but is not required to, reactivate the fire control (D6.633), but if he does not reactivate his fire control as part of uncloaking he must announce the fact, otherwise it is assumed that he has. Because it takes fire control four impulses to become active, this can be accomplished before fade-in is complete, but the ship remains under the restrictions of (G13.51) until the fade-in period is completed. If activation is delayed or not started, the ship will not have fire control active when fade-in is complete. Until fire control becomes active (AND fade-in is complete), the ship cannot fire weapons or use any system that requires a lock-on. [In *Advanced Missions* the ship could fire by passive fire control (D19.0) after fade-in is complete and before fire control is active.]
(G13.133) Because the fire control is not active while cloaked or fading, the cloaked (or fading) ship will have no lock-ons. It cannot fire weapons (even by passive fire control). It cannot use tractors [except under (G13.432)], transporters [exception; (G13.421)], or any other system that requires a lock-on (D6.62).

(G13.14) ACTIVATING THE CLOAKING DEVICE: If the device is not operating, the owning player may announce that it has been turned on during the Cloaking Device Stage of the Sequence of Play. However, the device does not become fully active [i.e., gain all of the benefits of (G13.30)] until five impulses after the announcement. Further, from the time that the announcement is made, the ship is under the restrictions of (G13.5).

EXAMPLE: The ship announces on Impulse #20 that it is activating its cloaking device. The ship is under many of the restrictions of the device immediately, but does not gain all of the benefits until the Cloaking Device Stage of Impulse #25.

During the five-impulse period when the device is being turned on, the ship "fades" out of the tracking scopes of other ships. This is reflected by increasing the effective range from any firing ship to the cloaking ship by one hex for each of those impulses. Note that when the device is fully active (G13.31), the effective range is increased by five hexes (G13.302). This five-hex penalty is phased in over the five impulses of the fade-out period. Thus, in the example above, a ship three hexes from the cloaking ship would fire at the following ranges on the impulse indicated:

IMPULSE	**19**	**20**	**21**	**22**	**23**	**24**	**25**
DEVICE STATUS	OFF	<----------FADE---------->					ON
PENALTY (G13.302)	+0	+1	+2	+3	+4	+5	x2+5
EFFCTV RANGE	3	4	5	6	7	8	11

Note that the sudden increase on Impulse #25 represents the doubling of the true three-hex range [under the terms of (G13.31)] when the cloaking device becomes effective. If lock-on had not been lost (G13.331), the range would not have been doubled.

NOTE: X-Ships (X0.0) have a different fade schedule.

(G13.15) DEACTIVATING THE CLOAKING DEVICE: If the device is operating, the owning player may announce that it has been turned off during the Cloak Stage of the Impulse Activity Segment of any impulse. At that point, the device is off and the ship may be locked-on to by enemy ships, losing the (G13.301) benefit. However, the ship itself may not lock-on to any enemy ship or fire/launch any weapons until its fire control becomes active AND fade-in is complete.

Alternatively, it could use passive fire control (D19.0) AFTER fade-in is complete.

EXAMPLE: The ship dropped its cloak on Impulse #10; it could not fire/launch weapons until Impulse #15.

During the five-impulse period when the device is being turned off, the ship "fades" onto the tracking scopes of other ships. This is reflected by decreasing the effective range penalty (G13.302) from any firing ship to the uncloaking ship by one hex for each of those impulses. This five-hex penalty is phased out over the five impulses of the fade-in period. Thus, in the example above, a ship three hexes from the cloaking ship would fire at the following ranges on the impulse indicated:

IMPULSE	9	10	11	12	13	14	15
DEVICE STATUS	ON	<----------FADE---------->					OFF
PENALTY (G13.302)	x2+5	+5	+4	+3	+2	+1	+0
EFFECTIVE RANGE	11	8	7	6	5	4	3

The drop over the first impulse represents the loss of the "double range" effect of the cloaking device given in (G13.301).

NOTE: X-Ships (XG13.0) have a different fade schedule.

(G13.16) DESTRUCTION OF CLOAKING DEVICE: The cloaking device is not on the SSD and cannot be destroyed in combat.

(G13.161) A cloaking device could be destroyed, but not captured, by a hit and run raid (D7.85). Guards can be assigned. (A box marked "Cloak H&R" appears on the SSD to record such destruction.) If an active cloaking device is destroyed, the ship begins fade-in (G13.118) immediately. For purposes of (D16.54), the cloaking device is in the same area as the bridge.

(G13.162) If the ship is in danger of being captured [i.e., has enemy marines on board or is crippled (S2.4) and held in an enemy tractor beam], the owner can try to destroy the device during the Cloak Stage of any impulse (but only once in 32 consecutive impulses). The chances of doing so are the same as those of destroying his ship (D7.7). This can be done even if the device is operating. If the device is destroyed, the ship begins fade-in immediately. The modifiers in (D7.7) apply. A Legendary Officer can only affect one of these. The "attempt to block self-destruction" procedure does not apply to the cloaking device.

(G13.163) If the device is not operating and enemy marines are not on board, destruction can be attempted once in the Initial Activity Phase of each turn, with a 1-4 chance of success (1-5 if a legendary captain or engineer makes the attempt). If the device is operating, it can only be destroyed as per (G13.162).

(G13.164) A destroyed cloaking device can be repaired by (D9.45).

(G13.17) PLANETS: A planet cannot be cloaked.

(G13.18) DOCKING: All units docked inside or to a larger unit (e.g., ships docked inside a base or fighters in a ship's hangar) are considered to be cloaked if the larger unit is cloaked. The smaller units do not pay a cloaking cost in this case. These smaller units could cause the cloaking device to be voided by performing any of the actions listed in (G13.4). Units docked to a larger cloaked unit are under all of the restrictions of a cloaked unit, i.e., a frigate docked to a dreadnought could not fire its phasers on passive fire control until it completes fade in. Note that the tractor beams used to hold a ship in a docked position do not void a cloaking device. See (C13.9494) and (G13.431).

(G13.2) ENERGY COST OF OPERATION

The ships that have the cloaking device and the cost for using the device are shown in (G13.21).

NOTE: The printed power costs on published SSDs supercede any cost listed in this rule section and are specific to the individual ship. Generally ships with more power generating systems will have a higher cloak cost, and ships with fewer power generating systems may have a reduced cloak cost than that listed for their size class in this rule section.

(G13.21) ENERGY COST OF OPERATION: Energy must be paid to activate a cloaking device. This is usually paid during Energy Allocation, but may be paid with reserve power (H7.2) or contingent reserve (H7.6). If the full energy cost is not provided, the device cannot be activated. The cost per turn is as follows:

Base Station	8	Romulan K5R	6
Battlestation	12	Romulan KR	20
Starbase	40	Romulan War Eagle	6
Orion CR	10	Romulan Warbird	1

The above chart includes all ships in *Basic Set*. All ships have their cloak energy cost on their SSD. Also see Annex #7H in *Advanced Missions* for an expanded list of units.

(G13.22) WARP SHUTDOWN: If a ship shuts down (does not use for power) or has dropped (G12.6) its warp engines, it can cloak for a lower cost based on its size class. Size classes and reduced costs are listed below.

Size Class 1	30	Size Class 3	4
Size Class 2	6	Size Class 4	2

This "shut down" is accomplished during Energy Allocation by simply not allocating any energy from the engines. It is not the same thing as (D18.0) or (G30.0).

(G13.23) ENERGY COST: The cost of operating the cloaking device is paid once per turn, regardless of whether the device is operating one impulse, 32 impulses, or some number in between, and regardless of whether or not the device was activated, deactivated, or both (in either order) during that turn. If the device is not active during part (or all) of the turn, the ship does not recover any of the unused energy.

(G13.231) Energy paid to operate a cloaking device does not produce ECM, negative tractor, or any other effect for the cloaked ship.

(G13.232) A ship cannot pay the cost twice (or more) in order to avoid the restrictions of (G13.113).

(G13.3) COMBAT AGAINST CLOAKED SHIPS

Ships operating cloaking devices are more difficult to hit with weapons. Specific penalties are imposed.

(G13.30) PENALTIES: When firing at a cloaked ship, there are three basic penalties, as described herein. Under certain circumstances, some of these penalties may not apply.

(G13.301) NO LOCK-ON: The most basic effect of the cloaking device is that enemy units cannot lock onto the cloaked ship. This imposes a number of restrictions, e.g., (D6.12) and (D6.13), and causes the range to the cloaked ship to be doubled (D6.123). This penalty does not apply during the fade period (G13.14) or (G13.15). A lock-on can be gained to a cloaked ship by various means, as seen in (G13.333), (G7.99), and (G13.4). If a lock-on is achieved (and maintained), this penalty does not apply.

(G13.302) RANGE PENALTY: When firing at a cloaked ship, five is added to the range when calculating the effective range. This is done after the effects of (G13.301) are accounted for. During the fade period (G13.14) and (G13.15), this penalty is phased in (or out) gradually. This penalty is ignored if the firing unit has a tractor link to the cloaked ship (G7.993). The effective range (after both penalties) is used for tactical intelligence (D17.221).

(G13.303) DAMAGE ADJUSTMENT: All weapons (direct or seeking) fired at a cloaked ship are adjusted (probably downward) by (G13.37). Cloaking is a type of EW effect, but uses a different system. EW penalties for firing at a cloaked ship (D6.35) and (D6.36) are ignored; the chart in (G13.37) effectively IS the EW shift. This penalty does not apply to non-weapons (tractors, SFGs, transporters,

etc.) There is no EW die roll as per (D6.37). Type-VI dogfight drones ARE affected. Exception: (G13.344).

(G13.31) COMBAT WITHOUT A LOCK-ON: If the enemy unit has no lock-on, all of the penalties in (G13.30) apply. Specific cases include:
(G13.311) Seeking weapons cannot function without a lock-on (D6.13) and are removed from play; see (G13.334) in the case of self-guiding seeking weaons. Seeking shuttles go inert (FD1.72).
(G13.312) Direct-fire weapons are penalized because of the poor fire-control solution available. This is reflected by the penalties in (G13.30). See (G13.34) for additional conditions. There is no exclusion for Range Zero. You double the actual range (for the loss of lock-on), and add five. Effective range is five. Note that this is the same way you'd perform the "doubling" if you failed your lock-on roll for any other reason.

(G13.32) COMBAT WITH A LOCK-ON: If the enemy unit maintains a lock-on to a cloaked ship, penalty (G13.301) does not apply. Penalty (G13.302) still applies unless a tractor link exists to the cloaked ship (G7.993). Penalty (G13.303) still applies in any case.

Seeking weapons can be launched if a lock-on is retained and can be guided for as long as it is retained, but are (like direct-fire weapons) adjusted by (G13.37).

See (G13.34) and (G13.35) for additional conditions. If using hidden cloaking, see (G13.403).

(G13.33) RETAINING A LOCK-ON: If a firing unit had a lock-on to the cloaked ship before the cloaking device was activated, or if the firing unit is able to achieve a lock-on while the cloaking device is operating through (G13.333) or (G13.4) or other causes, there is a possibility that the lock-on can be retained. Note that, if a ship enters a scenario cloaked, it cannot be locked onto except through (G13.333) or (G13.4) unless it uncloaks; see (G13.63).

(G13.331) PROCEDURE: The attempt to retain lock-on is made after fade-out is completed in the Cloaking Device Stage (6B2). The die is rolled in the Lock-On Stage (6B3) of the Impulse Activity Segment of any impulse where a ship has completed fade out.

Attempts to retain a lock-on are also required if a lock-on is regained by any of the various means provided.

This probability is determined with the following formula:

P = S – (EW adjustment) – RF + SF –4

The terms of the equation are defined as follows:

P	=	Probability of retaining lock-on
S	=	Sensor rating of ship trying to lock-on
EW	=	Electronic warfare adjustment
RF	=	Range adjustment factor as shown below
SF	=	Speed adjustment factor as shown below

The player controlling the firing ship rolls a single die. If the resulting number is equal to or less than the probability number determined by the equation, the lock-on has been retained.

EW Adjustment: Use the electronic warfare procedure (D6.34-Step #3) to calculate the differential, but if the result is negative, determine the result on the chart (D6.34) and apply it to the equation as a negative number.

Range Adjustment Factor	
True range	**RF**
0	–1
1 – 4	0
5 – 10	1
11 – 15	2
16 – 20	3
21 – 30	4
31 – 40	5
41+	6

Speed Adjustment Factor	
Maneuver Rate	**SF**
0	–2
1 – 4	0
5 – 8	1
9 – 12	2
13 – 15	3
16 – 17	4
18	5
19+	6

See (C2.42) for definition of maneuver rate.

Note that for a scout to support a ship the scout itself must have a lock-on to the cloaked unit (G24.218) or the ship cannot use ECCM lent by the scout for this die roll.

(G13.332) NEW DIE ROLLS: A new die roll to retain the lock-on (i.e., another chance for the hunting unit to lose lock-on) is made whenever conditions (as defined by the equation) have changed in favor of the cloaked ship.

(G13.3321) The die roll is made in the Cloaking Device Stage of the Impulse Activity Segment of any impulse when conditions to maintain a lock-on worsen, or conditions to gain a lock-on improve. This is the ONLY point in the Impulse Activity Segment where die rolls to gain (G13.333) or retain (G13.331) are made, regardless of anything else that happens during the turn. Whenever a lock-on is gained, it is retained (at least) until the next Cloaking Device Stage. Note that EW is adjusted ONLY in the Fire Decision Step (D6.315) and hence would not affect these die rolls until the next impulse.

(G13.3322) If a lock-on has been retained, a new die roll is not made if conditions (the modifiers to the equation) show an improved chance of retaining the lock-on. For example, if the cloaked ship dropped its ECM, the equation would actually improve in favor of the other ship, and no new die roll would be required. A new roll is not required at the start of each turn unless the net effect of the equation has changed.

(G13.3323) A new roll is made only if the result of the equation changes, not if minor elements change. For example, a change from two to three net ECM points would not change the net ECM shift and, as such, would not cause a new die roll. If two factors change and the changes exactly offset each other, no new die roll is made.

(G13.3324) Note that a scout must have its own lock-on to a cloaked unit in order for any ECCM it is lending to be used by a ship to gain or retain a lock-on. If a scout supporting a ship fails to retain its own lock-on to the cloaked ship, the ship being supported by the scout must immediately make a new die roll to retain its lock-on as conditions for the cloaked ship have changed in its favor (G13.332).

EXAMPLE: A cloaked Romulan ship is desperately trying to shake a Gorn CA's lock-on. The Gorn has three ECCM points and the Romulan has two ECM points, for a net shift of -1 in the Gorn's favor.

The Romulan ship uses one point of reserve power (on Impulse #19) to raise his ECM to three, producing a net shift of zero, altering the result of the equation (other factors remain constant in this example) and gaining a new die roll, which the Gorn wins.

The Romulan ship then (Impulse #20) uses another point of battery power to increase his ECM to four, gaining a +1 shift in his favor and another die roll, which the Gorn also wins.

The Romulan ship, frustrated and desperate, has only one point of reserve power left. Using it for ECM will not change the net EW shift. Using rule (D6.316), the Romulan player drops one point of his ECM on Impulse #21, resulting in a +0 shift. As this changed in the Gorn's favor, no new die roll was needed.

The Romulan player then (Impulse #22) used his last point of reserve power for ECM, creating another "improvement" to a +1 shift and another die roll. (This is known as the ECM Yo-Yo, a tactic invented by Jeff Smith, who used it to win the *SFB* National Championships in 1983.) In this case, however, the Gorn *still* wins the die roll and retains lock-on.

Out of options, the Romulan ship then uses emergency deceleration to reduce his speed to zero, gaining a -2 speed factor and a new die roll at such favorable odds that the Gorn cruiser, at long last in position to fire his torpedoes, loses lock-on (and his demeanor). The Gorn ship then proceeds to set a T-bomb next to the Romulan ship and detonate it with one of his own shuttles to produce the "flash cube" effect of (G13.552). He gains a lock-on but, due to the ECM state and the low Romulan speed, fails the die roll to retain it. He repeats the process on the next impulse and can continue to do so as long as he has T-bombs, a means to place them, and a means to detonate them.

(G13.333) REACQUISITION OF LOCK-ON: After a lock-on (to a cloaked ship) has been lost (or if you never had one), the uncloaked ship may make an attempt to re-acquire (or acquire) the lock-on at the start of each turn (in the Lock-On Phase), and any point in the turn when the conditions as defined under (G13.331) improve.

The attempt is resolved by this equation:

P = S – (EW) – RF + SF – 10

Note that this equation is similar to that in (G13.331), but the numerical factor is increased. As a practical matter, a lock-on could only be re-acquired by a scout-supported ship that was close to a cloaked ship moving at relatively high speed. Note that for a scout to support a ship the scout itself must have a lock-on to the cloaked unit (G24.218) or the ship cannot use ECCM lent by the scout for this die roll.

This procedure is also used to acquire a lock-on to a ship that enters the scenario cloaked.

(G13.334) SELF-GUIDING SEEKING WEAPONS have special rules when targeted on cloaked ships.

(G13.3341) If self-guiding seeking weapons (SGSW, i.e., plasma torpedoes and ATG drones) are controlled by another unit, they do not make their own attempt but have a lock-on automatically if the guiding unit does.

(G13.3342) If the guiding unit tries and fails, the SGSWs are released (F3.4) and can immediately make their own attempt to retain the lock-on.

(G13.3343) If the SGSWs are not controlled by a unit, they make their own attempt to retain a lock-on; they have no outside ECCM but may have built-in ECCM (D6.393).

(G13.3344) Self-guided seeking weapons have a sensor rating of six; see (F3.424).

(G13.3345) Type-VI drones which have a lock-on (FD5.131) do not lose that lock-on merely because the target cloaks.

(G13.34) DIRECT-FIRE WEAPONS: For all direct-fire weapons, use the effective range (D1.4) to determine the probability of a hit. [This effective range will be adjusted by (G13.30) to account for the circumstances.] In all cases, the adjustment chart (G13.37) is used to adjust the effectiveness of the fire. If the range (as adjusted for the cloak) exceeds the maximum range of the weapon, it should be painfully obvious to just about everyone that the weapon isn't going to do any damage.

(G13.341) GENERAL: For phasers, fusion beams, and tractor-repulsor beams, use the effective range to determine the damage caused by the weapon. Note that Hydran fighter fusion beams fired at a true range of two hexes would require only one charge even if the damage is rolled for an effective range greater than two hexes.

For disruptors, plasma bolts, hellbores, plasmatic pulsar devices, armed probes, and photon torpedoes, use the true range to determine the damage caused by a hit.

ADDs cannot be fired at cloaked units [except from inside the shuttle bay (G7.814)]. Maulers use (G13.344).

UIMs cannot be used unless the UIM can function at both the true and effective range.

(G13.342) MINIMUM RANGE: Note that weapons with a specified minimum range (e.g., non-overloaded photon torpedoes, PPDs, non-overloaded disruptors, etc.) cannot be fired if the true range is less than the stated minimum, even if the effective range is greater than the stated minimum.

(G13.343) OVERLOADS: Overloaded direct-fire weapons may be fired at a cloaked ship. See (D6.126). Feedback damage from overloaded weapons (if any) is not reduced by (G13.37).

(G13.344) MAULER: The range of a mauler is not adjusted for the effective range, but uses the true range only. Maulers cannot fire at a cloaked ship unless they have a lock-on. When firing with a lock-on, the adjustment in (G13.37) is not used. Instead, roll one die. A result of 1-3 indicates full effect (at true range); a result of 4-6 indicates a complete miss. This die roll is adjusted (up or down) by the ECM shift.

(G13.35) SEEKING WEAPONS: If a seeking weapon enters the hex occupied by the cloaked target ship, there is a substantial probability that it will not be able to find the target. Use (G13.37) to determine the damage caused.

(G13.36) FADE PERIOD: During the fade period (i.e., the effective range is no longer doubled but some adjustment is added to the range), the player controlling the fading (target) ship can use either of the following procedures at his choice. This choice is made (and announced) when fade begins. Whichever he selects must be used for all firing units during the entire fade period.

(G13.361) Use the chart in (G13.37), but add the penalty hexes to the die roll and then subtract five from the die roll. Ignore any EW effects.

(G13.362) Ignore (G13.37) and use the normal EW shifts.

(G13.37) FIRE ADJUSTMENT CHART

Roll one die to determine the actual result of each individual weapon. Note that in the case of a narrow salvo (E1.6), a single die roll is used for the entire volley. Direct fire weapons are affected by (G13.34); seeking weapons by (G13.35). Type-VI drones ARE affected. For additional data, see (G13.303) for penalty conditions, (G13.344) for maulers, and (G13.35) for seeking weapons. This table does not adjust the damage caused by explosions, including collateral damage (J3.3).

DIE	RESULT
1 or 2	Weapon does normal damage.
3 or 4	Weapon does 1/2 damage.
5 or 6	Weapon does 1/4 damage.
7 or more	Weapon does no damage.

(G13.371) A result of less than one is considered to be one. [A shift could be caused by (G13.62).] Round fractions of 0.5 and more up, of 0.499 and less down. See (G22.73). A positive modifier can result from the effects of (G13.361) when combined with (G13.62).

(G13.372) This table is used in place of, NOT in addition to, the effects of any ECM shift. Cloaking is a very gross effect which effectively destroys the basis on which the ECM shifts are calculated. The cloak is the maximum possible effect. ECM helps ensure that the cloak will work (G13.331), but cannot increase its effect.

(G13.373) Apply the percentage to each weapon individually, not to the sum of each weapon type.

(G13.4) LOSING CLOAKING DEVICE EFFECTS

There are several ways in which a cloaked ship could lose some of the benefits of being cloaked. Many are listed in this section. This is known as "voiding" a cloaking device; the effect is to allow a lock-on and cancel the (G13.301) penalty. There are other means of voiding a cloaking device than those listed here. See ESGs (G23.62) and (G13.57), and also mines (G13.55).

Having a cloak voided is the worst thing that can happen as the cloaked ship loses the (G13.301) benefit and retains the penalties. If the ship voids its cloaking device by any of the procedures noted, it is still under the restrictions of (G13.4), (G13.5), and other relevant rules until the device is deactivated and fade-in is complete. Specifically, it cannot fire weapons until the device is deactivated and fade-in is complete. If the device is voided during the fade period, that fading process continues normally.

(G13.40) EFFECT OF VOIDED CLOAK: The primary effect of a voided cloak is that other units may gain a lock-on. This cancels the double-range penalty in (G13.301) and allows units to operate under the terms of (G13.32).

(G13.401) If the cloak is voided, other ships may gain a lock-on to it (except as noted). These enemy ships must roll to retain the lock-on. The die roll is in the (6B3) Lock On Stage (G13.331). See the detailed example under (G13.3323) for the precise sequence of events. Even if a lock-on is gained and retained, the five-hex penalty (G13.302) and the (G13.37) adjustment is retained. If a lock-on existed before the cloak was voided, a new die roll to retain it is not required.

NOTE: In this rule, and elsewhere in the cloaking rules, the term "may be locked onto" is used. The "may be" element reflects the die roll (D6.11) that all units must make to lock onto anything. If the unit's sensor rating is six, this is, of course, automatic.

(G13.402) In many cases, enemy ships will have several chances to gain and retain a lock-on. In such cases, the ship could roll for continued lock-on under (G13.331) during each of these impulses. If

a unit has a lock-on, it is not required to roll again to *retain* a lock-on solely because of a subsequent opportunity to *gain* one.
(G13.403) If using hidden cloaking (G13.61), the position, identity, facing, Turn Mode status, and sideslip status of the ship is revealed if any ship gains a lock-on to the cloaked ship. This may be subject to (D17.51) if tactical intelligence *and* hidden cloaking are used.

(G13.41) SHUTTLES, PFs: A cloaked ship cannot pick up shuttles or PFs without being detected. The ship has to broadcast a homing signal for the shuttles and PFs (verbally announced by the player), and this signal could be detected and used for targeting. Shuttles cannot crash aboard a cloaked unit, even if they have a lock-on. The player owning the cloaked unit must voluntarily provide a homing signal to the specific unit attempting to land aboard by any means in order for a landing to be possible. Enemy boarding parties on the cloaked unit cannot provide such a signal. A cloaked ship can be locked-on to during the impulse in which it picks up a shuttle and during the impulse before and after the impulse in which the pick up is made.

A cloaked ship may launch shuttles and PFs. While this would give away its location (G13.61), enemy ships still could not "lock-on" to the cloaked ship. Also see (G27.3). See (G13.5) for laying a mine from a cloaked unit.

(G13.42) TRANSPORTERS: A cloaked ship exposes its position (and can be locked onto) during any impulse that it uses transporters (G8.0) and during the impulse after it does. There are some exceptions in the case of docked units (C13.4).
(G13.421) Transporters can only be used to a friendly unit that is also operating a transporter to receive the beam. This does not require active fire control by the cloaked ship, but does require active fire control by the receiving ship (ergo, the receiving ship cannot be cloaked). The receiving ship does not need a lock-on to the cloaked ship, but each operation will require two transporters (one on each end).
(G13.422) A cloaked ship cannot be boarded by transporters unless it can be locked onto.

(G13.43) TRACTOR BEAM: A cloaked ship loses the (G13.302) range benefit (or the firing ship avoids the penalty, depending on your point of view) if it is held in a tractor beam (G7.99) in regard to that specific firing ship. A unit may fade in or out of cloak while held in a tractor beam, but will not gain the full benefits of the cloak while so held.
(G13.431) Tractors used to hold a ship in a docked position do not count for this purpose (C13.949). See (G13.46) for units docked inside other units and (K2.46) for a PF docked to its PFT.
(G13.432) Negative tractor does not void a cloaking device.
(G13.433) A cloaked ship held in a tractor by a friendly unit has its cloak voided and can be locked onto.

(G13.44) ELECTRONIC WARFARE: A cloaked ship is presumed to be using a powerful form of ECM and may expend additional energy for ECM.
(G13.441) A cloaked ship cannot use ECCM because its fire control is not active (D6.62), although it may expend power for ECCM which would become effective if the cloak was turned off during that turn.
(G13.442) EW cannot be loaned to a cloaked ship (even by a scout that retained a lock-on), except during the fade-in/fade-out period. See (G13.54). If the cloaked ship is a scout, see (G24.28) and/or (G13.515).
(G13.443) A cloaked ship can receive ECM from natural sources.

(G13.45) WEB: If a cloaked ship enters a web hex (G10.0), it is trapped by the web in the normal manner (G10.51). A cloaked ship in a web hex can be locked onto. The web must have a strength of at least one; unformed free-standing webs and zero-strength webs do not expose cloaked ships. Webs laid by casters, snares, or web generators are identical in this regard (after free-standing webs have formed). See also (G10.77).

(G13.46) DOCKING: The docking of cloaked units is a complex affair. The tractor used for docking could void the cloak; see (G13.43). There are two basic cases.
(G13.461) If one ship is cloaked and the other is not, the cloaked ship must broadcast a homing beacon (G13.41) for docking to be completed. Once docked, see (C13.949).
(G13.462) If both ships are cloaked, both must broadcast a homing beacon (G13.41) for docking to be completed. Once docked, see (C13.949).
(G13.463) To dock to a cloaked enemy unit, you must gain a lock-on and establish a tractor link, then use (C13.0).

NOTE: Docking is covered in *Advanced Missions*. PFs (*Module K)* docking to their PFT are covered by (K2.46).

(G13.47) MARINES: Boarding parties on board a cloaked enemy ship cannot assist in detecting or locking onto it. (The PRC-2000 radios carried by Marines are strong enough to talk to friendly ships but not strong enough to transmit an accurate homing signal.) If using (G13.61), the boarding parties can broadcast the specific hex that the cloaked ship is in.

(G13.48) TERRAIN: A cloaked ship operates against all types of terrain exactly as an uncloaked ship, except that during any impulse when it takes terrain-induced damage, it may be locked onto. Exception: Heat zones and radiation zones do not create a lock-on condition.

(G13.49) ATMOSPHERE does not void the cloaking device. The slight disturbances of the atmosphere are more than offset by degraded sensors on the searching ships.

(G13.5) OTHER EFFECTS OF THE CLOAK

Use of the cloaking device has certain other effects.

(G13.51) BASIC RESTRICTION: A cloaked ship has its fire control system in the inactive mode (D6.64) and cannot use passive fire control (D19.0). These restrictions apply while the cloaking device is operating and during all fade periods, even if fire control has been activated during a fade-in period. Note that the reference here to the fire control being considered inactive does not mean that a weasel would not be voided if the fire control was activated as the ship came out of cloak.
(G13.511) A cloaked ship cannot gain or retain a lock-on to any object. See (D6.62) for a list of things the ship cannot do because it has no lock-on.
(G13.512) A cloaked ship cannot launch seeking weapons (even those with ATG or on a ballistic course) or guide those already launched.
(G13.513) A cloaked ship cannot fire direct-fire weapons.
(G13.514) Tracking of seeking weapons will be lost (F2.63).
(G13.515) Scout functions (except G24.28) will not operate on a cloaked ship.
(G13.516) A cloaked ship gains no benefit from passive fire control (D19.312).
(G13.517) Cloaked ships cannot determine the shield status of other units (D3.543). See (D17.222) when a cloaked ship is trying to use tactical intelligence.

(G13.52) EXPLOSIONS: Ignore the cloaking device when calculating the range for self-destruction and mine blast effects. Mines (G13.55) and ship explosions (D5.0) void the cloak of any cloaked ship within their blast range (G13.40) from the point of the explosion to the next subsequent lock-on stage (6B3).

(G13.53) MONSTERS: All animal monsters ignore all effects of the cloaking device. Using their animal "sixth sense" and instincts, they can still detect a cloaked ship accurately enough for their weapons and other effects.

(G13.54) WILD WEASELS: A cloaked ship can launch a wild weasel. The WW distracts seeking weapons normally, but the ship cannot receive the ECM points provided by the WW even if the ship begins fade-in while the weasel is active.
(G13.541) A cloaked ship can launch a WW during fade-in/out and will receive the ECM points during the fade and uncloaked periods only. Once cloaking is completed, the ECM points will be lost even if the ship uncloaks later. Note that since the ECM of the weasel is lost once the fade-out is completed, this ECM will not be present for the calculations in (G13.33) to retain lock-on.
(G13.542) Launching a WW will expose the position of the ship if using (G13.61) but will not produce a lock-on.

(G13.543) A wild SWAC or PFS can be launched in the same manner.

(G13.55) MINES: A ship with a fully active cloaking device entering a hex within the detection radius of an explosive mine (or T-bomb) has a reduced chance of detonating the mine (since the mine's electronic "feelers" can't be touched by the ship).
(G13.551) In such cases, add three to the die roll, but an unadjusted die roll of "1" always means an explosion, regardless of modifiers. (This effect exists only after fade-out is complete and before fade-in begins.)
(G13.552) A cloaked ship is exposed and is locked onto during the impulse in which it is inside the area of a mine explosion. As with all units in such a blast area, a cloaked ship can be damaged by an explosive mine detonated by another unit. Note that the period of this lock-on lasts only until the next roll to retain lock-ons in the sequence of play. See the example in (G13.3323).
(G13.553) A cloaked ship cannot detect (M7.0) or sweep (M8.0) mines while the cloaking device is operating or until fade-in is complete or after fade-out begins.
(G13.554) Cloaked ships are not exposed by damage from weapons. See (G13.52).
(G13.555) A captor mine (M4.435) will not trigger against a cloaked ship since it cannot target it. A captor mine will gain a lock-on to a cloaked ship within its detection range if the cloak is voided (or dropped) and will then roll to retain that lock-on in the subsequent Lock-On Stage. A sensor mine will detect a cloaked ship (as any other mine would); it cannot order a captor mine to fire (unless that mine has a lock-on) but can order an explosive mine to detonate. See (M5.1121).
(G13.556) Mines may be laid from mine racks or dropped from shuttle bays by a cloaked unit without voiding the cloak. The mine will NOT become active until the cloaked unit has met the requirements of (M2.34), and this is based on true range, not effective range.

(G13.56) LABS on a cloaked ship may not gather any information while the cloaking device is operating or until fade-in is complete or after fade-out begins. Labs may not gather information about a cloaked ship. See (G4.43).

(G13.57) ESGs: An ESG ignores the effects of a cloaking device and damages cloaked ships normally (G23.621); the cloaked ship can be locked onto during the step when it suffers ESG damage.
A cloaked ship cannot operate an ESG; see (G23.622).

(G13.58) DISPLACEMENT DEVICE: A cloaked ship cannot be displaced even if the Andromedan ship has a lock-on to the cloaked ship; see (G18.72).

(G13.59) ERRATIC MANEUVERS: A cloaked ship cannot use Erratic Maneuvers (C10.24) while the device is operating. It can use EM during the fade-in/fade-out period, but must stop doing so before the fade-out is complete and before the die roll is made to retain a lock-on (G13.331).

(G13.6) ADVANCED CLOAKING PROCEDURES

(G13.61) HIDDEN MOVEMENT (Optional-Experimental)
This experimental rule can be used for extra excitement in hunting a cloaked ship. It is optional and requires the consent of all players. It will almost certainly require a non-playing moderator (or an extremely honest cloaked player). It is not intended to function as the sole or standard cloaking rule, but is only to be used for an interesting alternative. For purposes of play balance, the non-cloaking player should have a BPV advantage on the order of 33%, but this figure is not exact and is influenced by many factors such as terrain, weapons being used, experience of the players, and the size of the fleets.
(G13.611) The counter representing the cloaked ship is removed from the board, with the ship's position recorded secretly by the owning player. The movement of all ships should be recorded continuously, impulse by impulse and hex by hex, for later verification. Each cloaked ship is known and recorded as a unique individual, even if its location is not known. These are designated as Target #1, Target #2, etc. until a lock-on is achieved; see (G13.403).
(G13.612) Each opposing uncloaked ship may, twice per turn (on Impulses #8 and #24), require the owner of the cloaked ship to reveal which 60° firing arc (of that opposing ship) each cloaked ship is in and the true range. Only "ships" (which includes bases, interceptors, and PFs) can ask for the information. Shuttles (which includes fighters) and other units cannot. Probes (G5.0) can be fired into a hex within the limits of their rules and will count as an "observing ship" for the next observation impulse (#8 or #24).
(G13.613) If a lock-on has been retained, the player owning the cloaked ship must reveal, during the Activity Segment of each impulse, the data provided in (G13.403). This is done for each opposing ship which has a lock-on.
(G13.614) Seeking weapons (which have a lock-on) move on the board normally (F2.2). The owner of a seeking weapon moves it and the owner of the cloaked ship tells him if the hex entered is legally acceptable within (F2.2). If it is not, the weapon is returned to the original hex and the procedure is repeated. The seeking weapon could use an HET if necessary under the restrictions of (F2.13).
(G13.615) The counter is not removed from the board until fade-out is completed and lock-on is lost. The counter is returned when fade-in begins or when lock-on is regained.
(G13.616) It is possible that a T-bomb could be placed into the same hex as an unknown cloaked ship in violation of (M3.22). This is allowed (so long as the hex location of the cloaked ship is not known to that player/side).
(G13.617) When weapons are fired at or impact on a hidden cloaked ship, the judge makes any required die rolls secretly, determines the amount of damage (based on the range to the actual hex, and other factors), and announces this. Weapons fired at an out of arc target are announced as causing "no damage" after the judge makes a meaningless die roll.

(G13.62) EXPERIENCE IN TRACKING (Optional)
To account for the ability of enemy units to "learn" how to detect the cloaked ships (by adjusting their instruments and discovering just what to look for), the following procedure can be used. Add ten (not five) to the range (G13.302) on the first firing attempt, and reduce this penalty by one for each previous turn during which the firing unit (not player or side) fired at and scored damage points on the cloaked (not fading) ship with direct-fire weapons in this scenario. This penalty is adjusted specifically for each firing unit and each cloaked ship it is firing at. The penalty can never be reduced below three hexes.

Penalty	Impulse	9	10	11	12	13	14	15
	Device	On	<----------Fade---------->					Off
3	Eff Rng	9	6	5	4	3	3	3
4	Eff Rng	10	7	6	5	4	3	3
5	Eff Rng	11	8	7	6	5	4	3
6	Eff Rng	12	9	8	7	6	5	3
7	Eff Rng	13	10	9	8	7	6	3
8	Eff Rng	14	11	10	9	8	7	3
9	Eff Rng	15	12	11	10	9	8	3
10	Eff Rng	16	13	12	11	10	9	3

Penalty	Impulse	20	21	22	23	24	25	26
	Device	Off	<----------Fade---------->					On
3	Eff Rng	3	3	3	4	5	6	9
4	Eff Rng	3	3	4	5	6	7	10
5	Eff Rng	3	4	5	6	7	8	11
6	Eff Rng	3	5	6	7	8	9	12
7	Eff Rng	3	6	7	8	9	10	13
8	Eff Rng	3	7	8	9	10	11	14
9	Eff Rng	3	8	9	10	11	12	15
10	Eff Rng	3	9	10	11	12	13	16

This rule is used with (G13.14) and (G13.15) by simply using the current rating (e.g., ten) in place of the standard five-hex penalty. The fade-in/out will still take five impulses (so far as the cloaked ship is concerned); the penalty will increase/decrease one point per impulse, with its maximum rating just before lock-on is lost (or just after it is

regained). The chart below assumes a ship at a true range of three hexes that turns the cloaking device off on Impulse #10 and back on during Impulse #21.

When deactivated the doubling effect is lost immediately; when activated the effective range increases as shown immediately.

(G13.63) ENTERING A SCENARIO CLOAKED: Some scenarios permit (or even require) a ship to enter the scenario while cloaked. The procedure in (D17.221) tactical intelligence is used [even if the remainder of (D17.0) is not].

While some scenarios may have other rules, one basic system is explained here. The scenario begins with the cloaked units at the specified range (e.g., 47 hexes from ships) and a speed of four (for the zero speed factor). The non-cloaked units are assumed to be at WS-I. See (G13.12) and/or (G13.403) for the data that would be available on the cloaked ship.

(G14.0) TUGS AND PODS

Tugs are capable of carrying various types of pods. When doing so, the combination operates under special rules.

Some empires use pallets or cargo packs; these are in all respects functionally identical to pods except where and as noted.

(G14.1) OPERATIONS

(G14.11) COMBINATION: When a pod is attached to a tug, it becomes a part of that tug for ALL purposes.

(G14.111) The shields, sensors, scanners, damage control, and excess damage are all combined unless noted otherwise. When combining the sensor, scanner, and damage control ratings of the tug and pod, the undestroyable "residual" rating (zero for sensor or nine for scanner) is not added; if both have such a box, only one is used by the combined unit. Some pods contribute to the seeking weapon control rating (F3.2).

(G14.112) Power may be transferred freely between the ship and pod and in fact is not calculated separately. See (G14.353) independent operations, (G14.41) attachment procedure.

(G14.113) Any damage points scored may be distributed among the combined ship as the owning player sees fit. (Some tug+pod combinations, e.g., the Federation Battle Tug, have special rules on the distribution of damage noted on their SSD or in the ship descriptions.) Exception: (J1.413).

(G14.114) When determining the values of a tug+pod combination, simply add the BPVs, crew units, and boarding parties. However, if the specific combination is listed separately on the table (e.g., Fed Battle Tug, Klingon CVT), that listing, not the combined total, must be used. See the note at the end of the Master Ship Chart.

(G14.115) Pods can be used as part of a mobile base (R1.24). These pods are, within the limits of that rule, fully active and functional. They cannot be detached during a scenario.

(G14.116) No tug can have more than six PF mech-links (including any on its pods).

(G14.117) If a pod is capable of independent operations and has its own repair capabilities, this is treated as follows; The pod and tug are treated as single unit for all purposes while combined (G14.11). The combined unit can only generate a number of repair points (D9.711) each turn equal to the damage control rating of the Tug. Damage control points can be applied to either unit (the tug or the pod, or any other pod the tug is carrying in addition to the pod that has its own damage control rating). Since both are independent units nominally, even though combined, the combination can repair a total number of boxes by CDR equal to their combined damage control ratings. The player must keep a record of which CDR points were used by each unit in the event they separate during the scenario. This also applies to any use of EDR (D14.0), i.e., the player must record which damage control track lost a box under (D14.11).

(G14.12) ENERGY COST OF SHIELDS: The cost of raising the combined shields is the same as the cost of raising only the tug's shields.

(G14.121) Some battle tugs and carrier tugs are rated as a larger size class, costing more energy to raise their shields. These ships cannot raise only the tug shields (or only the pod shields), but must pay for the combined tug+pod shields.

(G14.122) The pod's shields can be left inactive to deceive an opponent, but take 1/4 turn to raise after intention to raise those shields is announced.

(G14.13) INACTIVE PODS: Pods, foreign pods (G14.72), Monitor pallets (R1.22E1), base augmentation modules, Skyhawk modules (one per SkH), and Sparrowhawk modules (two per SpH) can be carried by tugs. Two modules can replace each pod; if carried in pairs, they are linked together and cannot be dropped separately. The systems on the inactive pods are not operable and are treated as cargo boxes for damage purposes.

(G14.14) MONITORS (R1.22) carry special monitor pallets for extra combat capabilities. This is treated as a tug+pod arrangement.

(G14.2) TUG MANEUVERABILITY

(G14.21) CARRYING: Carrying pods can increase the movement cost and Turn Mode of the tug. These changes are shown in Annex #3A. See also (G14.34).

(G14.22) TOWING: Pods can be towed by tractor (as most units can be). See Annex #7L for towing costs.

(G14.3) RELEASING A POD

(G14.31) RELEASE PROCEDURE: A tug may release a pod during the Separations Stage of the Impulse Activity Segment of any impulse of any turn so long as the speed of the tug is zero or one at the time of release; exception (G14.32). The pod counter is placed in the same hex and from that time operates independently (G14.35).

(G14.32) RELEASE AT SPEED: If released at a speed higher than one, score one point of internal damage to the pod *and* to the tug for each unit of the tug's effective speed (at the instant prior to release). See exception in (G14.33).

This is not cumulative with involuntary releases due to breakdown (C6.562). Damage is not scored for release at speed if the release is a result of (D21.44).

(G14.33) DESTROYED POD: If all boxes on the SSD of a pod are destroyed, the pod can be (but need not be) dropped immediately; it does not explode. This does not include sensor, scanner, damage control or excess damage boxes, but does include all internal boxes.

(G14.331) It can be released at any speed without damaging the tug; it cannot serve as a WW. If not released, the Turn Mode and speed of the tug remain under the 'with pod' conditions.

(G14.332) A pod with all boxes marked destroyed which is dropped is considered destroyed and cannot be repaired later.

(G14.333) A pod with all boxes marked destroyed which is not dropped counts as "crippled" for purposes of (S2.21) victory conditions (assuming that the tug survives the scenario). If the tug is captured, the pod is also considered captured.

(G14.334) This rule also applies to pods attached to bases.

(G14.34) TUG MANEUVERABILITY: At the instant that the pod is dropped, the movement cost of the tug will change (except in a few cases). This will cause the speed of the tug to increase immediately.

If the new speed is greater than the maximum speed allowed [30 movement points from warp power (C2.112)] or exceeds the acceleration limits (C2.411), the ship moves at the maximum speed allowed by those rules and the excess power is lost. Note that if the pod is dropped as a WW (J3.14) this sudden acceleration could cause the tug to exceed the voiding speed.

EXAMPLE: An LTT has 24 warp points but (with a pod) a movement cost of one. The ship has allocated all 24 warp points and one impulse point to movement, resulting in a speed of 25. During the turn it drops the pod, changing its movement cost to 2/3 and increasing its number of movement points to 37. The ship begins moving at Speed 31 (30 from warp), ignoring the other six movement points. The tug and the pod each take 24 points of damage due to (G14.32).

(G14.35) INDEPENDENT STATUS: If released from a tug, a pod operates on the board as a separate unit.
(G14.351) Some pods (e.g., cargo pods) have no engines, crew, shields, and/or sensor-scanner-damcon-exdam tracks. Such pods have an obviously limited capability to operate independently; a cargo pod would be little more than a target.
(G14.352) Some pods (e.g., Fed Starliner) have engines, shields, and weapons and are capable of operating as a starship (albeit a very slow and weak one).
(G14.353) At the instant a pod is detached, it begins to function as an independent ship to whatever extent it can for all purposes.

(G14.3531) If the pod has power, it must fill out an Energy Allocation Form immediately for the remainder of the turn, paying the cost of shields, life support, movement (no pod has warp engines, so one point of impulse will move the pod on Impulse #32 or provide a Tactical Maneuver), weapons, fire control, etc. If the pod was producing power used by systems on the tug, the tug will need to rebalance its energy by (D22.0).
(G14.3532) The various rules on how often a given system can be used still apply, e.g., a transporter on a pod that was used earlier in the turn (before release) still cannot be used again during that turn whether the pod is released or not.
(G14.3533) Fire control (for armed pods) becomes active at the instant of release if the tug+pod combination had active fire control prior to separation.

(G14.36) WILD WEASEL: A pod released from a tug can be used as a WW; see (J3.14).

(G14.4) ATTACHING A POD

(G14.41) PROCEDURE: A tug may attach a pod during the Systems Function Stage of the Impulse Activity Segment, so long as the speed of the tug and pod at the time of attachment are both zero and the tug or pod has at least one working tractor beam with power applied (and available for use within the rules). Both the tug and pod must have the same facing and be in the same hex. Note exception to facing in (G14.42).

NOTE: This actually uses that procedure in (C13.9), but since that rule is not in *Basic Set*, it has been summarized here. This also forms an exception to (C13.9), which allows docking only at the end of a turn, because tugs and pods are specifically designed to be docked (at any point in the turn).

(G14.42) BACKWARDS PODS: While an intriguing idea, analysis of the blueprints shows that pods cannot be mounted backwards on their tug. The power connections are not reversible, and the elevator shafts will align with the sewage system. There is one exception: Lyran cargo pallets can be carried backwards under their tugs; see (R11.N1).

(G14.43) SIDE-BY-SIDE PODS: Some tugs (in *Advanced Missions)* have two side-by-side pods; these are designated as side-by-side tugs in their descriptions. These tugs can operate with a single pod (on the centerline); a pod in this position blocks both normal positions.
(G14.431) A tug could not disengage by acceleration (C7.1) with one pod in a side position, and conversely could never arrive at a scenario with one pod in a side position, it could arrive with a single pod in the centerline position. This is the only penalty for carrying an off-center single pod.
(G14.432) For a side-by-side tug with one pod to pick up a second one, it would have to drop the first and then reattach both. If such a tug (with two pods) drops one pod, it will have to drop the other (possibly reattaching it on the center position) before disengaging by acceleration. Note that dropping that pod may damage the ship enough to prevent disengagement due to (G14.32).
(G14.433) The Gorn tug is treated as a side-by-side tug even though the pods are actually mounted above and below (or on) the hull axis.

(G14.5) PROPORTIONAL CASUALTIES

When detaching an undestroyed pod, any crew unit casualties previously scored can be distributed between the pod and tug at the owner's discretion, unless the separation occurred involuntarily (e.g., due to breakdown), in which case casualties must be distributed between the tug and pod in proportion to the original crews of each.

(G14.6) PSEUDO-POD

(G14.61) DEFINITION: This is not a true pod, but an imitation intended to deceive the opposing forces. The tug appears to be carrying a pod (of any type that the owning player cares to name), but actually is not. A pseudo-pod is an inflated light metal construct designed to appear as and give the electronic signature of a real pod. The purpose might be to convince a pirate or enemy fleet that an empty tug is really a battle tug or carrier tug or is carrying valuable cargo. In no case can an enemy determine that the pseudo-pod is not a real pod except by boarding it or scoring damage on it.
(G14.611) The player must designate before the scenario begins what type of pod the pseudo-pod is designed to look like.
(G14.612) Pseudo-pods cost ten points.
(G14.613) Pseudo-pods take up one docking point (deflated and stored) or a number equal to the pod they are simulating.

(G14.62) MANEUVER: The pseudo-pod does not affect the movement cost or Turn Mode of the tug, although turning at the radius or speed assigned to an empty tug would expose the deception. A pseudo-pod will be destroyed automatically if the tug makes an HET. A pseudo-pod counts as a real pod for purposes of (G14.431).

(G14.63) OPERATIONS: A pseudo-pod can be towed by a ship, or detached to operate independently. It cannot move or take any action, but cannot be distinguished from a real pod. It will still appear as if it is real. It will appear to have the appropriate shields, although of course it does not and it would be destroyed by (G14.66). A pseudo-pod cannot be used as a WW.

(G14.64) BOARDING PARTIES transported onto a pseudo-pod are not harmed (they float inside the hollow shell) and report the deception; they will perish if the pseudo-pod is destroyed. They can be transported elsewhere at a later time. Hit and run raids would also reveal the deception. Pseudo-pods cannot be guarded. If a hit-and-run is executed against a pseudo-pod (not aborted by EW or general shield reinforcement) the BP will automatically return, no matter what is actually rolled for the hit and run raid, and report the deception.

(G14.65) PSEUDO-TUGS: While ships with similar hulls to a tug (e.g., Lyran Tiger vs Cougar, Lyran Jaguar vs LTT, Hydran Ranger vs Caravan, all LTTs to their CWs) cannot carry a pod because they lack the internal bracing, they could carry a pseudo-pod for deception purposes. This is extremely rare. No more than one ship per side could carry pseudo-pods. Pseudo-pods carried by non-tug units cost 25 points (due to the extra work to attach them).

(G14.66) DESTRUCTION OF PSEUDO-PODS: All pseudo-pods are destroyed by the first damage point allocated to one of the internal systems on the pod type they are simulating. Note that as the pseudo-pod has pseudo-shields, an independent pod would be destroyed by the first damage point of any type, while the shields of a tug carrying a pseudo-pod would be penetrated much earlier than expected (exposing the deception, even though no damage was allocated to the pod).

(G14.7) CAMPAIGN NOTES

(G14.71) STRATEGIC MOBILITY: For purposes of strategic mobility, it could generally be assumed that any tug could carry any pod, with the exception of the uniquely-shaped Lyran pallets and the small cargo packs carried by the Tholian CPC and Romulan FE. However, this is for cargo purposes only; due to incompatible power connections and dynamic balance, no systems on a towed foreign pod could operate and all boxes would be treated as cargo. The pod

could NOT be dropped to assume independent operations as the systems would be shut down for safety purposes on the trip.

(G14.72) FOREIGN PODS: A carried foreign pod could be dropped, but would not be active (G14.13). It could be reattached, but would not become active (even on a ship of the same empire) until taken to a base for servicing (between scenarios). It cannot be used as a WW.

Exceptions: Tholian CPCs and LTTs can carry Fed cargo pods. Lyrans use modified Klingon pods and can (rarely) use unmodified Klingon pods. Klingons can use Klingon pods modified to Lyran or Romulan service. Any tug can carry a civilian cargo pod (R1.34).

(G14.73) STRATEGIC FREIGHTER DEPLOYMENT: Freighters (and variants, including naval auxiliaries) can be carried "as cargo" by tugs. While rarely done, this might be used to deliver the slow-moving ships to their operational theaters.
(G14.731) The freighter could be activated in an emergency by using (G30.3). The tug would use its own repair systems for activation. Repairs to activate a freighter (D9.7) would not count against the tug's limit. The freighter's warp engines cannot be activated or active if the freighter is attached to a tug moving at a speed of one or more.
(G14.732) When allocating damage to freighters carried as cargo, all systems may be damaged, including Sensor, Scanner, etc. Freighters are not destroyed until they take an "excess damage" hit after all of their "excess damage" boxes have been hit (D4.40). Freighters may be dropped immediately (G14.33), even if "track" hits still remain.

(G14.74) STRATEGIC GROUND BASE DEPLOYMENT: Tugs (and LTTs) can deploy small ground bases. Two small ground bases are carried in place of one pod except as noted below. This applies to the tug's movement costs as well; two ground bases are equal to one pod weight. Medium ground bases are not substantially larger, they are interchangeable with small ground bases for strategic movement purposes. Ground bases are carried as inactive cargo, like freighters in (G14.73). They would normally be activated (G30.0) immediately prior to deployment. A tug's internal cargo cannot be used for bases. Empires without tugs or LTTs can deploy ground bases by freighter (G14.746).
(G14.741) ISC DPTs can carry one small ground base in place of their cargo pack.
(G14.742) Romulan SPHs carry one small ground base in place of each cargo module, not two. Romulan Freight Eagles can carry two small ground bases in place of their cargo pallet.
(G14.743) Lyran Tugs can carry two small ground bases in place of each pallet or pod.
(G14.744) Tholian CPCs and LTTs can carry two small ground bases, but cannot carry cargo packs while performing this mission. While other Tholian ships can carry cargo packs (R7.14), only CPCs and LTTs can carry bases.
(G14.745) Andros carry small ground bases as per (R10.3116).
(G14.746) A small freighter can carry two small/medium ground bases stowed as inactive (G30.0) cargo (a large freighter can carry four) replacing all its normal cargo capacity. When allocating damage to bases carried as inactive cargo, all systems may be damaged as cargo, including Sensor, Scanner, etc. A base that is more than half damaged by this process may not be deployed.

(G14.75) FLEET REPAIR DOCKS: Tugs can strategically redeploy Fleet Repair Docks (R1.10B) between the rounds of a campaign game, but cannot carry any other pods or pallets while performing this mission.
(G14.751) A tug moving an FRD during a scenario would operate under (R1.10B2) and would not have to drop any pods it was carrying.

(G15.0) ORION PIRATES SPECIAL RULES

Because of their precarious political position, Orion ships are operated with a considerably different doctrine than ships of actual battle fleets. These benefits apply only to Orion-built warships that begin the scenario under Orion ownership. In a campaign, an overhaul at a base would be required to convert Orion-built ships in the hands of non-Orions, such as WYN ships or re-captured ships. These benefits can never be installed on or used by non-Orion ships or ships operated by non-Orions. There are some specific exceptions (e.g., the OK6) involving foreign-built ships in Orion hands that have some Orion benefits. These will be noted in their ship descriptions.

(G15.1) NO SURRENDER

(G15.11) AVOID CAPTURE: An Orion ship will never surrender (although it could be captured by boarding parties). When an Orion ship cannot disengage, the Orion ship will self-destruct rather than accept capture. Each Orion Captain will have to choose his own moment to self-destruct. This is ignored in Orion-vs-Orion battles.

(G15.12) SUICIDE BOMB: Orion ships have a nuclear suicide bomb. This is mentioned in (D5.2) and is included in the explosion strengths shown on the Master Ship Chart.

(G15.2) DOUBLING ENGINE OUTPUT

(G15.20) BASIC RULE: Orion ships (and only Orion ships) can double the energy output of their warp engines. This applies only to original construction Orion ships as in (R8.0) and does not include freighters operated by Orions. On each turn that this is done, one warp engine box is marked as destroyed. (There are some exceptions listed in the ship descriptions.) Note specifically the restrictions of (C2.112). If the ship has a cloak, see (G15.32).
(G15.201) To do this, the owning player simply increases the number on line one of his Energy Allocation Form to reflect which engines were doubled and circles it. This action (including which specific engines were doubled; e.g., left warp) must be announced in the Energy Allocation Phase; see Annex #2. Impulse engines (line two on the EAF) can also be doubled; see (G15.23).
(G15.202) The loss of one engine box occurs at the end of the turn in the Record-Keeping Phase.
(G15.203) The ship is not required to allocate all of the power produced from doubling the engines, but any unallocated power is lost. The ship cannot double its engines in mid-turn and declare the additional power to be "reserve" power; engine doubling can only be done during Energy Allocation.

(G15.21) SHIPS: All Orion ship types can double their engine output. However, each engine is doubled (or not doubled) individually.
(G15.211) The box destroyed by the doubling process is in addition to any combat damage. An engine box destroyed in combat during the turn cannot be used to satisfy this requirement. If the entire engine is destroyed during the turn, the penalty is meaningless and ignored.
(G15.212) Large Orion Ships (size class 3): Each ENGINE that doubles its output loses one box. Thus, a CR could lose two warp engine boxes per turn, a CA three [plus, perhaps, an impulse box in each case; see (G15.23)].
(G15.213) Small Orion Ships (size class 4): These ships lose only one engine box per turn, even if both warp engines and the impulse engine are doubled, but the engine box lost must be a warp engine box if either warp engine was doubled. The DBR is a special case. Its warp and impulse engines are doubled separately, each costing one destroyed box of the type doubled.
(G15.214) Repaired engine boxes can be doubled. See also (G15.29) for hastily repaired engines.

(G15.22) ORION PFs: Orion PFs (and interceptors, which use the PF rules) can double their warp engines and booster packs.
(G15.221) Orion PFs lose only one engine box per turn through this procedure, even if both warp engines and the impulse engine are doubled, but the engine lost must be a warp engine if either warp engine was doubled. Note that PFs must double all of their warp engines, and cannot double just one (G15.223).

(G15.222) The engines and booster packs on a PF are doubled separately. Doubling the packs destroys them but doubles the engines without damage. Doubling the engines without doubling the packs results in a loss of one engine box (no damage to the packs).
(G15.223) A PF must double all of its warp engines (and/or all of its warp packs); it cannot double individual engines or packs.

(G15.23) IMPULSE ENGINES: Orion ships can also double the output of their impulse engines.
(G15.231) For size-3 ships, one impulse engine box is marked off if any or all of the impulse engine boxes run at double output.
(G15.232) PFs (G15.22) and size-4 ships (G15.213) can double the impulse engines without damage if they double any of their warp engines at the same time. Exception: DBR (G15.213).

(G15.24) DISENGAGEMENT: Orion ships can use double output to disengage, but are not required to use it to calculate required power.

(G15.25) EXPLOSION: The doubling of engine output does not increase the power of an explosion (D5.0).

(G15.26) SPEED LIMIT: An Orion ship cannot generate more than 30 movement points with warp power (even using engine doubling), even to penetrate a web, tow another ship, or escape from a black hole; see (C2.112). Energy spent for HETs or EM is not movement and not limited by the speed. The ship could move 31 and perform these maneuvers. See (C12.38).

(G15.27) VICTORY CONDITIONS: Engine boxes lost due to doubling count as damage for purposes of (S2.22).

(G15.28) UNITS UNABLE TO DOUBLE: Orions in captured ships cannot double the engines of those ships. Captured Orion ships cannot double their engine output. Orion bases cannot double their power output. Orion ships sold to other empires (e.g., WYN) cannot double their engines. Some ships captured by the Orions and modified to use some Orion technology (e.g., OK6) are specifically defined in their ship descriptions.

(G15.29) REACTORS: APRs and AWRs cannot be doubled. Warp boxes hastily repaired (G17.5) as AWRs and impulse boxes hastily repaired as APRs can be doubled as part of that engine. Note that Impulse boxes repaired as APRs, and Warp boxes repaired as AWRs can be given up as the box required to be destroyed as a result of engine doubling. Power generated by hastily repaired engine boxes must be tracked separately as it cannot be used for any movement function.

(G15.3) CLOAKING DEVICES

Virtually every type of equipment in known space (with the significant exceptions of Andromedan and Tholian equipment) has found its way into the hands of the pirates, and the cloaking device is no exception. Some Orion ships may have cloaking devices; their BPV is increased (R8.R4). The BPV increase is noted on each SSD.

(G15.31) COST OF OPERATION: The cost of operation is shown in (G13.21), Annex #7H (in *Advanced Missions)*, and on each SSD.

(G15.32) DOUBLE ENGINES: If the warp engine output is doubled, the power required to operate the cloaking device is also doubled due to the brighter electronic signature that must be masked. If only one engine is doubled, the cost of cloaking is increased by 50% if the ship has two engines, 33% if it has three. Doubling impulse engines does not increase cloak costs.

(G15.4) OPTIONAL WEAPONS MOUNTS

(G15.41) MOUNTS: Many Orion (and WYN) ships have boxes on their SSDs that are marked "OPT." This indicates an optional weapons mount, which can include any ONE of the weapons listed in Annex #8B.
(G15.411) The BPV of the ship is adjusted by the stated amount in the case of each weapon. Ships with divided BPVs, i.e., the Slaver (83/60), add the increase to both their economic and combat BPVs, thus if a Slaver took special sensors (+10 BPV points each) in both of its option mounts its BPV would be 103/80.
(G15.412) See (R8.R3) for the firing (or launch) arcs of the weapons installed in option mounts.
(G15.413) Each plasma-torpedo launcher (other than a type-D plasma rack) comes with one PPT (FP6.0).
(G15.414) No Orion unit at any time under any circumstances can ever have or use a phaser-IV, plasma-R, mauler, any Andromedan-only technology (e.g., DisDev, TR, PA), or any Tholian-only technology (e.g., web generator, web caster, snare generator, ability to move or fire through webs).
(G15.415) Optional weapons cannot be changed without a shipyard overhaul taking several weeks or months. See (U7.27).

(G15.42) AVAILABLE ITEMS: The following items can be placed in an optional weapon mount:

Weapons listed in Annex #8B, batteries, APR, AWR, labs, cargo, tractor beams, probe launcher.

Additionally, those mounts in the main hull (not wings) of Orion ships can include transporters, repair, or hull. They could also include barracks, but the marines would have to be purchased separately.

Mounts in the main hull cannot include mech-tractors, but could include tractors.

None of the non-weapon options changes the BPV of the ship.

NOTE: See (U7.113) for additional technology restrictions.

(G15.43) WING MOUNTS: The wing mounts on all Orion ships are too weak to mount some weapons (see Annex #8B). All option mounts not on the centerline of the ship are considered to be "wing" mounts unless specifically designated otherwise in the ship description. The side mounts on the WYN Auxiliary ships are noted in the ship descriptions as not being restricted in this manner.

(G15.44) AVAILABILITY: Which weapons are available depends on which cartel (R8.1) the ship is operating under. The limits below apply to the entire Orion battle force, as otherwise no ship would have enough option mounts to have a 10% availability weapon.
(G15.441) At any given time, 70% of the option mounts on a given cartel's ships will use the weapons used by the empire of the Home Territory, 20% by other empires within the Operating Zone, and 10% will be any available weapons.
(G15.442) The Cluster Cartel is an exception (due to its protected shipyard). This Cartel treats Kzinti, Lyran, and Klingon space as "Home" territory (90% of weapons) and can select the other 10% from all other allowed weapons. The WYNs are under the same restrictions as the Cluster Cartel.
(G15.443) Unless otherwise noted in the rules, a single ship alone in a scenario would have one option mount from empires of the Operating Zone and the rest of its option mounts filled with weapons from the Home Territory. The players may agree beforehand to allow a wider weapons selection as part of balancing a scenario.
(G15.444) The Standard Technology Chart in (U7.28) lists the technology known to each empire. Known Foreign Technology is not considered in the case of Orion Option Mounts (e.g., the Dragon Cartel does not have "home" access to type-F plasma torpedoes).
(G15.445) A given cartel cannot use a weapon or system (such as DERFACS disruptors or swivel mounts for plasma torpedoes) until at two years after the empire in their home zone begins using it. A given cartel cannot use a weapon or system not used by the empire in its home zone until three years after an empire in their operating zone has begun using it. A given cartel cannot use a weapon or system not used by the empire in its home or operating zone until five years after a empire outside of their home and operating zones has begun using it.

(G15.5) LABS

Orion ships without labs can use one of their control spaces as a lab. See (G4.3) for the procedure.

(G15.6) GRAVITY LANDING SYSTEM

All Orion ships have a gravity landing system to land on planets and moons (unless noted otherwise in their descriptions); see (P2.432). Many are capable of other landing systems; Annex #7B. Check (R8.0) before assuming that a given ship can use this system.

(G15.7) FIGHTER AVAILABILITY

This rule determines the availability of fighters for the Orion carriers in situations not specified by scenarios. Free campaigns should use this procedure to avoid abuse by the Orion players.

(G15.71) PROCEDURE: The Orion player rolls two dice, and uses the result to access the chart below and determine what types of fighters are available. The Orion player always has the option to take fighters of a lower class than those provided by the die roll.

DIE ROLL	75%	25%
3 or less	Class I Local	Class I Cartel
4-6	Class I Cartel	Class II Local
7-9	Class II Local	Class II Cartel
10-12	Class II Cartel	Class III Local
13-15	Class III Local	Class III Cartel
16 or more	Class III Cartel	Any

Classes are by standard definitions (i.e., Fighter Classes as noted in Annex #4). Local means that the fighters must be of a type used by the empire in whose territory the ship is operating. Cartel means that the fighters can be of types used by any empires in which the cartel owning or licensing the ship operates. As a rule, 75% (six on a CVL, nine on a CVS) are of a more common type than the other 25% (two on a CVL, three on a CVS). No more than 25% of the fighters (as above) can be armed with hellbores, disruptors, or Fed-gatlings.

Heavy fighters (J10.0) cannot be operated by the Orions.

Adjustments (which are cumulative) made to the die roll:

Ship is a CVS or CV	=	+2
Ship has a Poor Crew	=	-2
Ship has an Outstanding Crew	=	+1
Ship has a Legendary Captain	=	+1
Ship has a Legendary Ace Pilot	=	+2

(G15.72) MRS: Availability of MRS shuttles is as follows:

1-3 Home area MRS types.
4-5 Operating area MRS types.
6 Any MRS except Tholian.

This assumes that the optional MRS rules (J8.0) are in use and that the Orion ship in question is eligible to carry one.

(G15.73) SWAC: Orions cannot operate SWAC shuttles (J9.0) even if they captured them. See (U7.125).

(G15.8) STEALTH BONUS

(G15.81) BONUS: Most Orion warships are designed with a narrow silhouette and with a sensor-absorbent coating to make them harder to hit. This is reflected as ECM points and is known as the "Orion Stealth Bonus." See (D6.394). Not all ships have the same bonus; the bonus for each ship is noted on its SSD.

(G15.82) LOSING THE BONUS: Orion ships lose the Stealth Bonus if they double their warp engines. The stealth bonus is lost for as long as any warp engine is doubled.

(G16.0) STASIS FIELD GENERATORS *(Commander's Level)*

The Klingons experimented with installing these devices in their cruisers and dreadnoughts. The SFG was invented by the Klingons in Y165 and was never successfully copied by any other empire.

Basically, a stasis field stops time for anything inside it. Anything trapped inside of a stasis field cannot move until the field is released, but conversely nothing can be done to anything trapped inside such a field since nothing (logically) can happen while time is stopped.

The Klingons use the device for two tactics. One is to pin an enemy ship while other friendly units move into position to deliver concentrated fire. The second is to protect a friendly ship that is observed to be in a disadvantageous position.

(G16.1) PROCEDURE

(G16.11) ACTIVATION: The SFG can be activated in any impulse at the Activate/Deactivate SFG Step [in the Seeking Weapons Stage (6B6) of the Impulse Procedure] of the Sequence of Play. A ship generating a stasis field can deactivate the field during any subsequent impulse, in that same step. Within the step, new stasis fields are activated first and old ones deactivated afterwards. See (G16.3) for required conditions.

(G16.12) WEAPON: The SFG has an FA firing arc and a maximum range of five hexes. The range limitation applies to true range, not the adjusted range.

(G16.13) EFFECT: Each SFG will generate a stasis field around one object per field (ship, drone, etc.; NOT the entire hex) within that arc. The generator can create up to three fields (G16.21), each around one object.

(G16.14) BROKEN STASIS FIELD: Stasis fields can be broken by various means listed in the rules (e.g., towing the ship generating the field, destruction of the SFG on that ship, etc.). Regardless of how or when a stasis field is dropped or broken, it is not released until the next Activate/Deactivate SFG Step of the Sequence of Play. If a ship generating a stasis field does not allocate power to that field during Energy Allocation, this non-allocation is announced during the SFG Step of Impulse #1 of the turn for which Energy Allocation was being done, at which point the field is deactivated.

(G16.2) ENERGY COST TO OPERATE

(G16.20) ENERGY REQUIRED: The energy cost to generate a stasis field is five energy points on the first turn. The cost to maintain it increases by five energy points per turn (ten on the second turn, fifteen on the third, etc.).

(G16.21) MULTIPLE TARGETS: Two or three different objects in the same or different hexes (but all within the firing arc) may be placed in stasis. See (G16.46) for docked units.

(G16.211) The cost for holding two targets in stasis is equal to the sum of the costs for holding each target (G16.20), plus two extra energy points per turn.

(G16.212) Similarly, three targets could be held in stasis at a cost equal to the sum of the costs for holding each target (G16.20), plus three extra energy points per turn.

(G16.213) These separate fields need not be generated at the same time (although they could all be generated on the same impulse, or two separate impulses, or three separate impulses, or on separate turns), and the cost of generating each field is based on how long that specific field has been operating.

EXAMPLE: A D7A places a Federation CA in stasis on Turn #3, paying five points of energy.

On Turn #4, it allocates ten points (G16.20) to continue holding the CA and allocates five more points for a second field (plus two for the multiple field penalty), which it uses on Impulse #8 to place a Federation CC in stasis (total energy seventeen). It could not drop the field to the CA before placing the CC in stasis due to the recycle time required by (G16.33), but could drop that field afterwards.

On Turn #5, the D7A must allocate 15+10+2 (total 27) energy points if it wants to hold both ships in stasis. In this case, it cannot

afford that energy cost (due to other requirements) and drops the CA, holding only the CC for ten points. It also allocates seven points of power: five points to activate the third field and two for the multiple-field penalty). It cannot immediately re-stasis the CA due to (G16.71), but might do so on Impulse #9 if the CA has not escaped.

(G16.22) HOLDING ENERGY: Energy used to charge a stasis field generator cannot be held and is lost if not used on that turn.

(G16.23) RESERVE POWER (H7.2) can be used to activate a field (including the additional costs for multiple targets) but cannot be used to maintain an existing field between turns.

(G16.3) RESTRICTIONS ON A SHIP GENERATING A STASIS FIELD

During the time that the stasis field is operating, the generating ship is restricted in its activities.

(G16.31) NO MOVEMENT: The generating ship cannot move or be moved; it cannot be towed (G7.32) or rotated (G7.7) by tractor beams. If this occurs, the stasis field is irrevocably broken (G16.14) at the point that the announcement of a speed change is announced or that a tractor link is established by or to a moving (practical speed greater than zero) ship (not when the ship next moves on the Impulse chart). The field is actually released on the next SFG Step (normally in the same impulse).

See (G10.512) for ships in web.
See (C10.52) for erratic ships.
See (G16.66) for black holes.
See (P9.314) for gravity waves.
See (P8.23) for units in orbit.

(G16.311) The generating ship could make Tactical Maneuvers and High Energy Turns so long as it keeps the target ship in its SFG firing arc. See (C6.545) in the event of a breakdown.
(G16.312) If the ship equipped with the SFG stops by means of emergency deceleration, it cannot operate the SFG until 1/4-turn after movement stops; see (C8.27). This makes any Klingon ship which makes an emergency deceleration a potential target, assuming the enemy has not positively identified which Klingon ship has an SFG.
(G16.313) One common Klingon tactic is to have the SFG ship set Speed Zero while another (preferably larger) ship tows it into position. The SFG can operate after the tractor is released (at the appropriate point in the Sequence of Play).
(G16.314) If the ship equipped with the SFG stops because of a mid-turn speed change or between turns during energy allocation, then there is NO delay until the SFG can be used.

(G16.32) OTHER ACTIVITIES: A ship generating an SFG may conduct other activities, so long as it does not move.

(G16.33) REACTIVATION: The SFG cannot be activated until 96 consecutive impulses after all of the fields it is operating are dropped or broken. The SFG can generate up to three fields at a time (G16.21). It can drop any one of them, but cannot reuse that field until all fields have been dropped. After dropping the last field (or it being broken), even if it was the only field generated, another may not be generated for three turns. So long as one field is active, another field can be generated (up to the limit of three).

(G16.34) DISPLACEMENT: If the generating unit is displaced (G18.423), all fields are broken (G16.14).

(G16.35) LOCK-ON: The generating ship must have a lock-on (D6.11) to its target on the impulse during which an SFG field is activated.
(G16.351) The presence of an ECM shift to an enemy target [or a friendly target if (G24.219) applies to the SFG ship] may require a die roll attempt on the impulse of activation to determine if the lock-on is strong enough for the SFG to function (D6.37). See (G16.404).

(G16.3511) If the generating ship fails to achieve a strong enough lock-on in making this attempt, the field used for the attempt cannot be used until the next turn (and not less than eight impulses after the previous attempt).

(G16.3512) If the generating ship achieves a strong enough lock-on in a die roll required by (D6.37), an increase in the net ECM shift to the target during a subsequent impulse will require the generating ship to re-roll under (D6.37) in order to maintain its field onto the target. If the ship fails to maintain a lock-on on a subsequent re-roll, the field will be broken (G16.14).

(G16.352) The ship generating the SFG is required to maintain a general lock-on under (D6.11) and active fire control. If the generating ship fails to do so, the field will be broken (G16.14).
(G16.353) A cloaked unit can be placed in stasis if the ship generating the field has a lock-on. Other units do not gain a lock-on to a cloaked ship held in stasis. When the field is released, the SFG-ship will still have a lock-on to the cloaked ship unless other factors negate it. The true range is used.

(G16.36) COUNTER-STASIS: If a ship generating a stasis field is, itself, placed in stasis, the field it was generating is broken (G16.14). See (G16.65) for when two (or more) ships simultaneously attempt to put each other into stasis.

(G16.4) EFFECT OF BEING IN STASIS

(G16.40) GENERAL EFFECT: While a unit is inside of a stasis field, it is "frozen in time." Note specifically that the SFG field does not capture an entire hex, only one object/unit inside that hex. Only one unit/object can be inside each field (G16.13).
(G16.401) A unit in stasis does not move or conduct any activity; nothing can happen to it.
(G16.402) A unit in stasis cannot fire, launch, or guide weapons.
(G16.403) A unit in stasis cannot collect tactical intelligence data, but tactical intelligence data may be collected on that unit through and including (but not beyond) Level H.
(G16.404) A unit in stasis cannot generate EW points, nor can it receive lent EW points or loan EW points. [Any lent points would continue (unless dropped), without effect; the effect would be restored when the unit is released from stasis.] It would still have the benefit of "natural source" EW benefits, but these have little effect beyond (G16.3512). Built-in EW does not function, and small target modifiers have no effect. EW points generated by EM or by special crew/officer abilities do not function while the unit is in stasis.
(G16.405) Mines in stasis cannot explode, fire or launch weapons, detect or report targets, give or accept chain-detonation commands, or be given any command (if command-controlled). A mine with a deadman switch (M5.35) would explode upon release from stasis if the mine that was broadcasting the "do not explode" signal was destroyed while the deadman-mine was in stasis.

(G16.41) NO DAMAGE: A unit trapped inside a stasis field takes no damage from any source during the time it is trapped. While weapons may be fired into the field, they would detonate against the field, damaging nothing. Seeking weapons can be targeted against a unit in stasis, but if the target is still in stasis when hit, there is no effect. Note that an ECM drone (FD9.0) targeted on a unit in stasis (whether before or after it was placed in stasis) would continue to track the unit until it either ran out of endurance and went inert, was destroyed, or the unit was released from stasis. The ECM drone would provide no ECM to the unit in stasis until the stasis bubble was released, and would simply adopt station-keeping in the hex. An ECM plasma would operate like an ECM drone, except that it would not be able to remain in the hex of the unit (FP12.21) prior to Y180.

PPTs striking a target in stasis would be revealed as PPTs.

(G16.42) TRACTORS: A tractor link is broken if either the tractoring or tractored unit is placed in stasis. A tractor beam cannot be attached to a unit in stasis. See (G16.46) for docked units.

(G16.43) TRANSPORTERS: Nothing can be transported onto or off of a unit in stasis.

(G16.44) DESTROYED SFG: If the SFG is destroyed in combat, all of its fields are broken (G16.14).

(G16.45) MULTIPLE FIELDS: A unit that is already in stasis cannot be placed in another stasis field; see also (G16.71).

(G16.46) DOCKED: Any units docked to or inside a unit in stasis are also contained in the same stasis field. See (C13.946) for ships docked to ships. A unit which is docked to a unit that cannot be placed in stasis (G16.61) cannot be placed in stasis.

(G16.47) DISPLACEMENT: Units in stasis cannot be displaced (G18.0).

(G16.48) WILD SWACS, WEASELS: A wild SWAC (or wild PFS) cannot attract additional weapons while in stasis, but weapons already tracking it continue to do so, and the SWAC will resume its activities when released. See (J3.5) for the special effects of stasis fields on a wild weasel.

(G16.49) SEEKING WEAPONS: A seeking weapon held in stasis continues to require a control channel from the guiding unit.
(G16.491) The guiding unit cannot transfer control of a seeking weapon in stasis, but can release it (in which case the weapon would become inert immediately upon release).
(G16.492) A self-guiding seeking weapon which was ordered to guide itself (before or after it was placed in stasis) will go inert immediately upon release as its control system is too destabilized to function.
(G16.493) Upon release from stasis, a seeking weapon still under control of the unit which controlled it at the time it was placed in stasis will function normally. (Note that functioning normally includes losing tracking if the target has moved out of range or disappeared.)

(G16.5) INSTALLATION

(G16.51) KLINGON SHIPS: No specific ship was designed or built by the Klingons for the stasis field generator. Several classes of ships were modified to carry it. These include the:

D7 (designated D7A when in this configuration),
D5 (D5A),
C7 (C7A), and the
C9 (C9A).

These ships are described in their respective rule sections.

The B10 was sometimes equipped with SFGs; see (R3.17).

Klingon starbases were sometimes equipped with SFGs; see (R3.100) and (P8.23).

Should another SFG ship be added later, it will be noted in its description. SFGs cannot be added to units of size class 4 or smaller.

(G16.52) DAMAGE: An SFG is destroyed by two "phaser" hits (i.e., two damage points allocated to phasers by the DAC, not two damage points caused by phasers). See (D4.3221). Note that SFGs are not themselves "phasers" and are not protected from damage by phaser directional damage rule (D4.321).
(G16.521) One successful hit-and-run (D7.8) raid on an SFG box counts as one "phaser" damage point. Klingons virtually always assigned guards to the SFGs; one guard protects both SFG boxes and is lost as a casualty only if both are destroyed.
(G16.522) The SFG is fully functional until both boxes are destroyed.
(G16.523) Each of the two "damage points" of an SFG is repaired independently; each requires the repair points specified in Annex #9. If the SFG has received one damage point, the ship can repair that point while the SFG is functioning. If both are destroyed, the SFG will be available for use after one is repaired.

(G16.53) ORION AND WYN SHIPS: These ships can mount an SFG in their option mounts.
(G16.531) Orion ships can mount an SFG in two adjacent centerline option mounts. WYN ships can mount an SFG in any two adjacent mounts (not necessarily centerline). See Annex #8B and (G15.4).
(G16.532) The SFG is destroyed by two phaser hits as in (G16.52) and has an FA arc.
(G16.533) Orions and WYNs could not build the SFG; the only SFGs they had were captured from the Klingons. This made SFGs in Orion hands extremely rare (the WYNs, historically, never captured one), and a pirate or WYN player cannot purchase one in a "buy your fleet" battle without permission of the opposing players. See (U7.122).

(G16.54) OTHER EMPIRES: While no other empires had access to SFG technology, in a locally-run player-campaign, it might be possible for an SFG-ship to be captured. In such cases, the SFG could be mounted in a cruiser or DN of the capturing empire, replacing two adjacent phaser-1s or phaser-2s on the forward centerline of the ship (FA, FH, FX, or 360°); the SFG would have an FA firing arc. On a Lyran bi-hull without two (or more) 360° phasers, the SFG could go in either hull so long as that hull had two connected FA phasers.

(G16.6) OTHER CONDITIONS AND RESTRICTIONS

(G16.61) UNITS WHICH CANNOT BE PLACED IN STASIS: The following cannot be placed in stasis:

Any form of terrain (P0.0)
Any base with positional stabilizers (G29.23)
Any unit in an atmosphere (P2.546)
Any ground base (P2.744)
Anything on a planetary, asteroidal, or lunar surface.

(G16.62) UNITS WHICH CAN BE PLACED IN STASIS: The following can be placed in stasis:

Seeking weapons (drones, plasma torpedoes, etc.)
Shuttles (including fighters and heavy shuttles)
Ships (including PFs and interceptors)
Defense Satellites and mines

(G16.63) MONSTERS may be placed in stasis unless specifically noted otherwise in their rules.

(G16.64) EXPANDING SPHERE GENERATORS: If a ship is placed in stasis while generating an ESG field (G23.0), the field ceases to function until the ship is released, at which point the ESG reforms instantly, and units in ESG hexes treat this under (G23.56). Impulses spent in stasis do not count against the time limit in (G23.32). See (G23.87) for the impact of an ESG field on a unit in stasis.

(G16.65) STASIS VS STASIS: Two ships with SFGs cannot put each other in stasis simultaneously. If two opposing ships try, each player rolls two dice (roll again in case of a tie) and the higher number is successful in placing the other ship in stasis. Legendary weapons officers (G22.7) can affect this die roll.
(G16.651) It is theoretically (although not historically) possible for there to be several ships in a given scenario, all attempting to put each other (and several other units) in stasis at the same time. To resolve this, each ship rolls two dice (roll again for ties) and activates its SFGs in the order determined (highest to lowest). If any unit is, itself, in stasis when its place in the order is reached, that unit cannot activate its SFGs even if subsequently in the order another unit places the unit holding the unit in stasis is itself put in stasis (releasing the first field).

EXAMPLE: Captain Kirst in his D7A, Commodore Kecond in his C7A, and Admiral Kird in his C9A are all vying for the open seat on the Klingon High Council. Kirst is trying to put Kecond in stasis, while Kecond is trying to put Kird in stasis, even as Kird is trying to put Kirst in stasis. They roll dice and the order is Kirst, Kecond, and Kird. Kirst activates his SFG, putting Kecond in stasis. It is then Kecond's turn, but his ship is in stasis and he loses his turn. Kird then places Kirst in stasis, releasing Kecond (and while Kecond's SFG is still energized, his fire control is disrupted and he cannot use it). On the next impulse, Kird wants to use his second field to place Kecond in stasis but cannot due to the prohibition against a unit released from stasis being placed in stasis again within eight impulses. While Kecond's ship recovered from disrupted fire control four impulses later and could have put Kird in stasis (freeing Kirst), the council had already voted to give Kird the empty seat.

(G16.66) BLACK HOLE: A unit in stasis cannot be moved by a black hole (P4.0); the ship generating the field can be (without breaking the field). If the ship generating the field is pulled out of the effective range (or arc), the field is dropped. This is an exception to (G16.31).

(G16.67) OTHER EFFECTS: The presence of a unit trapped in a stasis field within a given hex has no effect on anything else in that hex. Note that a ship in stasis would impact an ESG field entering the hex (G23.87).

(G16.68) THOLIAN WEB: The Tholian web (G10.0) is unaffected by stasis fields. See (E12.532).
(G16.681) If a unit laying a web or reinforcing it is trapped in a stasis field, it cannot continue that function.

(G16.682) A unit functioning as a web anchor (G10.116) retains that status even while in stasis.
(G16.683) A stasis field cannot be projected across a web (G10.61); laying one is a way to break the field. A stasis field could be projected into or out of a web hex.

(G16.69) SEEKING WEAPONS: A unit in stasis cannot control seeking weapons; see (F3.532).

(G16.7) RELEASING A UNIT FROM STASIS

A unit is released from stasis when the field is dropped. (It could be dropped for a variety of reasons.) When dropped, the released unit is under certain restrictions. These are based on two factors. The first is the effect of the stasis field. (The crew does not know they were in stasis; they simply note that other units around them have suddenly jumped to new positions.) The second is that the unit is out of the regular time sequence and must be adjusted.

These rules apply to ships (including bases and PFs, i.e., units with energy allocation) and other units (seeking weapons, shuttles including fighters, monsters, etc.).

For recycling times, the period before a unit released from stasis allocates energy is considered to be the same turn as when it was placed in stasis; the period commencing with its energy allocation is considered to be a new turn.

(G16.71) SUBSEQUENT STASIS: Once released from a stasis field, a unit cannot be put in stasis again for at least 1/4 turn.

(G16.72) RATIONALIZATION OF ENERGY ALLOCATION AND OTHER FACTORS UPON RELEASE FROM STASIS: A ship held in stasis and then released will probably (31 times out of 32) be out of sync with the rest of the ships (in regard to energy allocation, plotted movement, etc.). In order to avoid total chaos in energy allocation, movement impulses, etc., it is necessary to get this ship back into sync with the rest of the ships in the scenario by (after performing one of the procedures below) having the ship do a normal Energy Allocation at the normal point for this to be done. Depending on the circumstances, one of the following procedures is used. In all of the procedures:

X = the number of impulses which the ship moved normally prior to being placed in stasis under the energy allocation plot it had when most recently placed in stasis.
Y = the number of impulses remaining until the end of the turn (from the time of release).

EXAMPLE: A Federation CA plotted its energy for Turn #3. On Impulse #11 of that turn, it was placed in stasis. It was released on Impulse #15 of Turn #5. In this case, X (the number of impulses it moved under the EA plot) is eleven; Y (the number of impulses remaining) is seventeen. (Obviously, impulses in which the unit is not scheduled to move are included in determining the value of X and Y.)

NOTE 1: Certain elements of this section apply to non-ship units (even though the rule is written for ships), for example in regard to speed changes or plotted movement. See (G16.49) for more data on seeking weapons released from stasis.

NOTE 2: In the unlikely event that X + Y = 32, ignore the calculations below and the ship simply completes its allocated move normally.

(G16.721) CASE 1: If Y (impulses remaining in the turn) is less than or equal to eight, the ship simply follows its original energy allocation and movement/speed plot (regardless of the actual number of impulses during which it operated under that allocation) until the end of the turn, then does energy allocation for the next turn normally. The last four impulses of the turn are considered normally for purposes of (C12.313), even if the ship-turn would have more than that many impulses remaining.

If X+Y is more than 32, the ship will move the extra impulses (there could be up to seven) at the same speed it was moving on the 32nd impulse that it operated under the original plot. (If using plotted movement, the extra impulses must be plotted at the time of release.)

If X+Y is less than 32, some movement energy will be lost.

If X+Y is equal to 32, see Note two above.

EXAMPLE: A Federation CA is placed in stasis on Impulse #31 of Turn #3 and released from stasis on Impulse #27 of Turn #5. As there are five more impulses in Turn #5, the CA continues its Turn #3 energy and movement plots to the end of the turn. This involves a total of 36 impulses using the energy allocation for Turn #3. During the last four impulses of Turn #5 (#29-#32), the ship moves at the same speed it was originally scheduled to move at during Impulse #32 of Turn #3 without actually paying for whatever movement it conducted during those four impulses.

A Federation DD was placed in stasis on Impulse #17 of Turn #4 and was also released on Impulse #27 of Turn #5. During Impulses #28-#32 of Turn #5, it moves at the speeds plotted for Impulses #18-#22 of Turn #4. The ten impulses of movement (#23-#32 of Turn #4) from the original plot is lost.

(G16.722) CASE 2: If X+Y is less than or equal to 36 (and Y is more than eight), the ship simply follows its original energy allocation and movement/speed plot until the end of the turn (regardless of the actual number of impulses which it operated under that allocation), then does energy allocation for the next turn normally. The last four impulses of the turn are considered normally for purposes of (C12.313), even if the ship-turn would have more than that many impulses remaining.

If X+Y is more than 32, the ship will move the extra impulses (there could be up to four) at the same speed it was moving on the 32nd impulse that it operated under the original plot. (If using plotted movement, the extra impulses must be plotted at the time of release.)

If X+Y is less than 32, some movement energy will be lost.

If X+Y is equal to 32, see Note two above.

EXAMPLE: A Kzinti BC was placed in stasis on Impulse #14 of Turn #3 and released on Impulse #17 of Turn #5. As there are fourteen impulses of Turn #3 before the ship was placed in stasis (counting the impulse it was put in stasis) and fifteen impulses of Turn #5 after it was released (not counting the impulse of release), this is 29 impulses and the ship simply completes the original plot for Turn #3. If it had fired two of its disruptors in the first thirteen impulses of Turn #3, it could not fire those two disruptors in the remaining impulses of Turn #5 (because it is still the "same EA turn"). If it had allocated eight points to disruptors on Turn #3, four of those points would still be in the other two disruptors on Impulse #17 of Turn #5. See, however, (G16.73), as disrupted fire control may prevent firing in any case.

(G16.723) CASE 3: If X+Y is more than 36 (and Y is more than eight), the ship executes the next four impulses based on the energy allocation (and movement plot, if any) written before it was placed in stasis. The four impulses are considered the last four impulses of the turn for purposes of (C12.313) and for other purposes. At the end of the fourth impulse (including the impulse of release, the owning player will completely re-write his energy allocation (and movement plot, if plotted movement is in use) for the remainder of the current turn. [If X+4 is more than 32, the ship will move some of those four impulses (there could be up to three) at the same speed it was moving on the 32nd impulse that it operated under the original plot. If X+4 is less than 32, some movement energy will be lost. If X+4 = 32, no energy is lost or gained.] This reallocation is under two restrictions:

The first is that any energy already expended during the four impulses since release must be allocated for.

The second is that the ship's movement rate (speed) is based on the total energy expended over an assumed entire turn, irregardless of how much of the turn actually remains, and is subject to the speed change restrictions.

Also note: The ship must complete phases 7 and 8 for the "turn" which is just ending and phases 1-2 and 4-5 (NOT phase 3) of the "next turn" as part of this process, but can only take those actions which only affect his own ship (e.g., no tractor auctions, rotations, pulsar outbursts, etc.).

EXAMPLE: A Tholian cruiser is placed in stasis on Impulse #20 of Turn #3 and released on Impulse #4 of Turn #4. As the Tholian had twenty impulses on Turn #3 and there are 28 impulses of Turn #4 remaining (total 48 impulses, more than the limit of 36), reallocation will be required. Impulses #1-#20 of Turn #3 and #4-#7 of Turn #4 are "one turn" while Impulses #8-#32 of Turn #4 are "a different turn" for energy purposes (weapons firing, etc.). In this case, the cruiser plots energy allocation at the end of Impulse #7 for the remainder of the turn. The ship selects a speed of twenty and must pay for all twenty hexes of movement even though four of those moving impulses are already gone.

(G16.724) For purposes of Turn Modes, sideslip mode, acceleration, the use of systems and/or weapons, delays between various functions, etc., the impulses before and after the ship was placed in stasis are considered continuous and part of the same turn. (The first portion of the impulse on which it was placed in stasis and the last portion of the impulse on which it was released are two portions of the

same impulse for this purpose.) If a ship with a Turn Mode of three had moved two hexes in direction A before it was put in stasis, it would have to move one more hex in that direction before it could turn.

(G16.7241) The use of systems (weapons, launchers, tractors, shuttle bays, electronic warfare, etc.) and the energy expended for their function, both before and after the unit has been placed in stasis, count toward the usage limits and power expenditures of the current turn. See (G16.73).

EXCEPTION: A unit which reallocates under (G16.723) is regarded to have begun a new turn and may use these systems again (beginning on the impulse of reallocation), subject to the normal time delays between each use.

(G16.7242) When released from stasis, the unit returns to the self-generated and built-in EW levels it had previously, and it is considered to pay for them until the next energy allocation. Of course, external conditions may have changed, which will affect how much lent or natural EW is available to the unit. Rule (G16.73) would also temporarily prevent the unit from using ECCM. See (G16.35) and (G16.404).

SUMMARY OF (G16.72) EFFECTS

X =	Number of impulses of the EA turn before the ship was put in stasis, counting the impulse that the unit was placed in stasis.
Y =	Number of impulses remaining in the turn from the time of release, not counting the impulse of release.
If X + Y = 32	Ignore the special procedures and complete the turn normally.
If Y <= 8	Use the same Energy Allocation and movement/speed plot until the end of the turn, then allocate normally.
If Y > 8 and X+Y <= 36	Use the same Energy Allocation and movement/ speed plot until the end of the turn, then allocate normally.
If Y > 8 and X+Y > 36	Use the original Energy Allocation and movement/speed plot for the next four impulses, including the impulse of release. Then revise Energy Allocation and movement/speed plot for the remainder of the turn under the restrictions of (G16.723).

(G16.73) FIRE CONTROL: When released from stasis, the ship (or other unit) will have its fire control disrupted. See (D6.68).

EXCEPTION: Mines do not suffer from disrupted fire control. Seeking weapons are covered by (G16.49) and do not have "fire control" within the meaning of this rule.

(G17.0) REPAIR SYSTEMS

Several different unit types (including bases, fleet repair docks, and PF tenders) have a repair capability represented by a number of repair boxes on their SSD. Bases can only use the repair boxes in one of their modules to repair units docked in or to that specific module. Repair systems can be used on friendly and allied ships.

For the purposes of these rules, the unit with the repair boxes is referred to as the "major unit."

Repair systems (G17.0) are designed to repair another unit, unlike (D9.7) and (D14.0) which cannot be used on another unit; exception (G19.26).

(G17.1) DEFINITION

(G17.11) SSD: Each repair box on the SSD represents a specific amount of repair capability. Each box represents a portion of the major unit's machine shops, overhaul crews, spare parts, and repair facilities; this has been abstracted somewhat.

(G17.12) TYPES: Repair boxes on repair freighters, FRDs, pods (not PFT pods), repair ships, and bases can repair any ship or shuttle.

(G17.121) The repair boxes on PFTs (including SCSs, casual PFTs, and repair on PFT pods carried by tugs/LTTs) can only be used to repair PFs or shuttles (K2.61); they cannot repair the ship itself or another ship (other than a PF).

(G17.122) Andromedan ships can use their repair capabilities on themselves or their satellites; see (G19.26) and (G17.24) for the procedures.

(G17.13) OTHER TYPES OF REPAIR: There are several repair systems (rules) in the game. These can, in general, be divided into four "levels" of repair. Repair of critical hits (D8.3) is not related to or limited by anything in this rule; it is a completely separate function.

NOTE: This rule (G17.13) explains the interaction of all repair systems in general. It modifies, expands, and limits the abilities of various repair systems.

(G17.131) COMBAT REPAIRS take place during a scenario.

(G17.1311) Shields can be repaired by (D9.2), the shield repair rule. There is no limit to the number of shield boxes that can be repaired during a scenario, and these repairs are permanent.

(G17.1312) Most systems can be repaired by continuous damage control (D9.7) and by emergency damage repair (D14.0), although the number of such repairs is limited by those rules. These repairs are permanent.

(G17.1313) Repairs can be conducted under (G17.0), but these repairs are temporary (G17.14) and limited by (G17.26). Repairs under (G17.0) cannot be used on the same unit during the same turn as repairs (including the accumulation of repair points) under continuous damage repair (D9.75) and/or emergency damage repair (D14.26). Repairs under (G17.0) can be done simultaneously with (D9.2) repairs. Repair points generated by (G17.0) cannot be combined (even on different turns) with repair points generated under (D9.7) on the same box.

(G17.1314) Legendary engineers (G22.44) and a legendary weapons officers (G22.76) have certain repair abilities. Any repairs they conduct are permanent.

(G17.132) TACTICAL REPAIRS are those conducted by a unit which has not had the opportunity to visit a base or rendezvous with a repair ship, but which has had a period of time out of combat in which more extensive repairs can be made.

(G17.1321) Repairs under this level use the (D9.7) repair system but can repair a total number of systems equal to three times the limitation of (D9.76). Any combat repairs conducted under (D9.7) during the scenario are included within this limitation, but not those conducted under (D14.0). Before these repairs are conducted, the ship automatically repairs all "damage control" hits. In addition, one (and only one) excess damage hit is repaired.

(G17.1322) Some campaigns may specify a different multiple to be used to reflect a longer or shorter average time between scenarios.

(G17.1323) Rule (G17.132) replaces rule (D9.47) for purposes of *Advanced Missions*. Rule (D9.45) remains in force, and rule (G9.452) applies to this rule.

(G17.1324) This procedure can only repair damage received in the immediately previous scenario of the campaign. Anything damaged during a scenario and not repaired during that scenario or by this rule (G17.132) between that scenario and the next can only be repaired by the operational or strategic repair procedures.
(G17.1325) PFs (including interceptors) (K2.61) and shuttles (including fighters) (J4.818) do not use this system.
(G17.1326) This type of repair restores the ship's HET bonus.
(G17.1327) While they are not "repairs" as such, reloading drone racks (from storage), reloading PPTs, preparing spare shuttles, the recovery of wounded crewmen, and similar functions are recorded at this time.
(G17.133) OPERATIONAL REPAIRS require access to a repair facility or ship within the operational zone and are defined by (D9.4).
(G17.134) STRATEGIC REPAIRS involve sending the ship back to a shipyard to be totally rebuilt. This is defined by (U1.4).
(G17.135) CAMPAIGNS may specify the availability of certain levels of repair between their scenarios.

(G17.14) TEMPORARY NATURE: Repairs conducted under (G17.0) during a scenario are temporary in nature, quick jury-rigged fixes to get the ship back into action. These repaired systems will fail (i.e., be treated as destroyed) after the scenario is over (although the contents of such systems, such as drones in a repaired drone rack, can be removed safely). Records must be kept in a campaign to denote the status of these repairs.

EXCEPTION: Shield repairs under (G17.0) are permanent.

(G17.2) GENERATION OF REPAIR POINTS

(G17.21) PROCEDURE: Each repair box on the major unit's SSD which is powered by one unit of energy (from any source) during a given turn produces one "repair point." Repair points are used to repair destroyed systems by the repair procedure below. Repair points cannot be accumulated from turn to turn, except when applied to a specific system under repair (G17.31).

(G17.22) NO DAMAGE: If there is no damage to any unit docked in the repair facility and no damage to the facility, no repair points can be generated or accumulated.

(G17.23) RESERVE POWER cannot be used to power repair systems since repairs must be assigned during Energy Allocation (C1.34), but battery power can be allocated to power the repair boxes during Energy Allocation.

(G17.24) SELF-REPAIR: Bases, repair ships (including the Romulan SpH-R), Andromedan ships (with repair boxes), FRDs, and other ships with repair boxes can repair themselves during the course of a scenario, but each system requires four times as many repair points.
(G17.241) Repair pods and modules count repairs to the unit they are docked to as self-repair.
(G17.242) Since (G17.33) limits the number of repair points applied to a given system box to five per turn, self-repair could take a considerable amount of time. Try using (D9.2) instead.
(G17.243) PFTs cannot repair themselves with (G17.0); see (G17.121).

(G17.25) DESTRUCTION: Repair boxes on a unit can be destroyed by cargo or hull hits.
(G17.251) If repair and cargo/hull boxes are available, such damage points can be scored on either system at the owning player's option. If no cargo (or hull) boxes are available, these damage points must be scored on the repair boxes.
(G17.252) Damage points scored on repair boxes count double (as two damage points) for purposes of crew casualties in (G9.21).

(G17.26) LIMITATION: No repair box can generate more than 100 repair points during a scenario. If a repair box is destroyed, its remaining points cannot be used unless the box is repaired, in which case it is still under the overall limit (including the points used before it was damaged).

NOTE: This rule will have little effect beyond an extended starbase siege scenario. Also note that PFTs are governed by (K2.61) not this rule.

(G17.27) CREW REQUIREMENTS: In order to use the repair systems (repair boxes on SSDs), they must be crewed. One crew unit is needed for every ten (or fraction thereof) repair boxes. If a crew is not provided, the boxes may not be used. This is in addition to the normal minimum crew requirements of the unit in (G9.4).

(G17.3) REPAIR PROCEDURE

(G17.31) ALLOCATION OF REPAIR POINTS: During the Energy Allocation Phase, energy for repair purposes is allocated and the number of repair points produced is calculated. These repair points are then assigned (during Energy Allocation) to repair specific systems. See (G17.23) and (C1.34).
(G17.311) A given repair system can only produce one repair point per turn and only if power is allocated. If a powered repair box is destroyed during the turn, that box cannot produce a repair point (or any fraction of one) and some points (option of the player operating the major unit) allocated at the start of the turn will be canceled. Power shortages caused by (D22.0) might also cancel repair points.
(G17.312) At the end of the turn, repair points are applied to the systems to which they were assigned (G17.31). These repairs take the entire turn; they are not distributed proportionally during the turn (e.g., a player could not claim that a system which required only two repair points was completed on Impulse #13). Repair points cannot be generated unless they are allocated to a specific valid repair; they cannot be accumulated for future use.
(G17.313) All calculations are in terms of system boxes. It takes ten points to repair a destroyed warp engine box; a destroyed warp engine (of, for example, fifteen boxes) would need 150 repair points. See (G17.32).
(G17.314) Repair points under (G17.0) can be allocated to several different system boxes, unlike points generated under (D9.7) which must repair one system box at a time.

(G17.32) COST OF REPAIRS: The cost of repairing a given system (i.e., the number of repair points that must be expended to complete the repairs) is given in the Cost of Repair Chart in Annex #9. Note that shields can be repaired by this procedure, a point that could become critical when repairing a ship during combat. See (G17.5) for a means of repairing many systems at a lower cost.

(G17.33) LIMITATION DURING ONE TURN: No damaged system box may receive more than five repair points during a given turn, even if more are required to repair it. Such boxes are partially repaired, and repair points may be expended on later turns to complete these repairs. Note that extensive record keeping is required. Systems partially repaired when the ship undocks are still considered destroyed, and any partial repairs are lost. Partial repairs to a ship that is (and remains) docked are lost if no additional points are applied to that specific system within a period of five turns.

(G17.34) EFFECT: When a system is completely repaired (at the end of the turn during which the final repair points were allocated), the "destroyed" mark is erased from its box. This is announced unless using (D17.0).

(G17.35) MISSING SYSTEMS: Repair cannot replace things that are completely missing.
(G17.351) A separated section of a ship (Klingon boom, Federation saucer, Tholian CoM, or any of their rear hulls) cannot be "repaired" into a complete ship. If a Federation or Klingon ship has separated into two or more parts and all of these parts are at the FRD or base, they can be rejoined, but only in a campaign record-keeping period, not during a scenario. (A Tholian CoM would simply redock normally.)
(G17.352) Dropped warp engines (and systems lost with them; Annex #7T) cannot be repaired as they are no longer present.
(G17.353) Destroyed shuttlecraft cannot be repaired.
(G17.354) Repaired cargo boxes do not have the cargo that was previously in them; repaired drone or plasma racks are unloaded; repaired shuttle boxes can operate shuttles but have no shuttles in them. Drones (or plasma-Ds) can be drawn from storage (FD2.43) or transferred from another unit (G25.0) to reload the racks. Spare shuttles can be prepared under (J1.422) in some very long scenarios or under (G17.1327) between scenarios.
(G17.355) Repaired plasma torpedo launchers do not have PPTs and are not holding torpedoes. See (G17.1327).

(G17.36) NON-DESTROYED SYSTEMS: Repair points cannot be expended to repair a system that, at the start of the turn on which the points were earned, has not been destroyed; exception Andromedan PA panel degradation (D10.546). Repair points cannot be expended on a unit unless it was docked to the repair facility for the entire turn.

(G17.37) EXCESS DAMAGE cannot be repaired during a scenario; it can be repaired between scenarios (D9.44).

(G17.38) BREAKDOWN: The HET bonus (C6.52) cannot be restored by any repair system; it automatically returns at the start of the next scenario (G17.1326). The lowered breakdown rating caused by a prior breakdown (C6.544) cannot be repaired without resorting to the operational level (G17.133).

(G17.4) EXAMPLE OF REPAIR PROCEDURE

A damaged Federation CC is docked to a battle station. The following systems (boxes) on the CC are marked as destroyed:

4 warp engine, one impulse engine, one battery, two phaser-1s, one photon torpedo, two lab, one transporter.

The battle station can produce 25 repair points each turn in the module to which the ship is docked. (We will assume that sufficient power is available.) However, no more than five repair points can be applied to each system on each turn. Over the next three turns, the repair points are allocated as follows:

Turn #1: five points to each of two warp engine boxes (each needs ten points, now 1/2 repaired; neither generates any power and they cannot be combined), five points to each of the phasers (each needs five points, fully repaired at end of turn), five points to the impulse engine (which needs five points and is fully repaired at the end of the turn).

Turn #2: five points to each of the two warp engines partially repaired last turn (they are fully repaired at the end of the turn), five points to each of the other two warp engine boxes (now 1/2 repaired), and the remaining five points to begin repairs on the photon torpedo (which needs a total of eight).

Turn #3: five points to each of the two warp engine boxes, three points to complete the repairs of the photon torpedo, two points to repair the battery, five points to repair each of the two labs. All of these repairs are completed at the end of the turn.

At the end of the third turn, all damage except the one transporter has been repaired.

(G17.5) HASTY REPAIRS

In some cases, time is of the essence and a less effective weapon available sooner would be more useful than a fully effective weapon available later. In such cases, the player may repair a system to a lower status.

(G17.51) PROCEDURE: When repairing a destroyed system under (G17.0) or (D9.7), the owning player has the option of repairing it for a lower cost by paying the cost of a similar but less effective item on Annex #9.

(G17.511) This decision must be made in writing when repair points are first applied to the system in question. If no notation is made, full (non-hasty) repairs are assumed. The decision can be changed at the start of any following turn before repair of the system is complete, but all repair points accumulated prior to the changed decision are lost.

(G17.512) Only certain substitutions are allowed (all others are prohibited unless noted in their rules); these are:

AWR can be repaired as APR.
Disruptors can be repaired as a shorter range.
ESG with a capacitor can be repaired as an ESG without a capacitor.
Impulse engine can be repaired as APR (but not as AWR).
Phaser-1 can be repaired as phaser-2 or -3.
Phaser-2 or phaser-G can be repaired as phaser-3.
Phaser-4 can be repaired as phaser-1, -2, or -3.
Plasma torpedoes can be repaired as any lower type (except D).
Snare generator can be repaired as web generator.
TR beam (H or L) can be repaired as tractor beam.
TRH can be repaired as TRL.
Warp engines can be repaired as AWR (but not APR).
Web caster can be repaired as a snare (with the web caster firing arc) or web generator.

NOTE: It is specifically NOT possible to repair a Range-30 ship-mounted photon as a Range-12 fighter or PF-mounted torpedo.

(G17.52) TREATMENT OF HASTILY REPAIRED SYSTEMS: When repaired to a lower level, the system is treated as what it was repaired as, not what it originally was, for purposes of energy requirements, priority of damage (D4.322), and utilization. Orions see: (G15.29).

(G17.521) If a hastily repaired system is destroyed, it is treated as the destroyed version of the original system, not the hastily repaired system.

(G17.522) A type-R/S/G torpedo launcher hastily repaired as a type-F launcher would not have the stasis system and would have to pay holding energy for any torpedo armed and held in it. See (G17.355).

(G17.53) SUBSEQUENT DAMAGE: For purposes of damage allocation, the system is treated as its original identity, but for priority of damage as what it was repaired as (G17.52). See (G17.55).

(G17.54) FURTHER REPAIRS on hastily-repaired systems cannot be completed during a scenario. For purposes of intervals between scenarios, a hastily-repaired system [one that used (D9.7), as one repaired by (G17.0) would become unrepaired at the end of the scenario] may be left in its hastily-repaired state or fully repaired under (D9.4), in which case it would not count as another box repaired under the (D9.76) limit.

(G17.55) REPAIRS AFTER SUBSEQUENT DESTRUCTION: If a hastily repaired box is destroyed, it can later be repaired (completely or hastily) again. See (D9.77).

(G18.0) ANDROMEDAN DISPLACEMENT DEVICE

The Andromedans have developed transporter technology into this device. No other empire uses it or understands it. [Even with captured and undamaged samples, no one could copy or operate it; see (U7.21).] The device affects the fabric of space itself, and it may be the key to their intergalactic travel. It is thought that this effect on the fabric of space limited the number of ships that could safely operate the device in a given volume of space; see (G18.8). It has been commonly used as a defensive weapon against opposing ships by displacing an Andromedan ship out of a dangerous situation. It is also used offensively to break up an enemy formation or move an enemy ship into a dangerous location. Its effect is to unbalance space around the target. The results are not entirely predictable.

The effect of a displacement device is to relocate the target into a new hex some distance away from its previous location. The act of displacement is not movement. The displaced object does not "move" through hexes to reach its new location. Instead, it disappears (leaves the known universe) from its old location and reappears (returns to the known universe) in its new location. Thus, displacement can take effect "through" ESG fields (though such a field would be displaced with the generating ship), webs, asteroid belts, planets, etc.

The official abbreviation for Displacement Device is DisDev; DD is not used due to confusion with "destroyer."

(G18.1) DEFINITION

(G18.11) SSD: Each displacement device box on an Andromedan SSD represents one device. Each device is charged and operated separately.

(G18.12) DESTRUCTION: Displacement devices are destroyed on flag bridge hits. If a displacement device is destroyed during the (6D) Direct-Fire Weapons Segment in which its use was announced, as a result of any damage prior to the Displacement Devices Operate Step, the device does not operate in any way. The ship, whether a self-displacement or a displacement of another unit, is not displaced in any way and not under any of the restrictions as a result of displacement (G18.42).

(G18.13) FIRE CONTROL: Displacement devices require active fire control [see (D6.623) and (D6.124)] and a lock-on (D6.11) to the object being displaced. [See (G18.51) for self-displacement, which also requires active fire control.] If there is no lock-on, the target cannot be displaced. There is a partial exception in the case of catastrophic damage (D21.0); see (G18.54). Note that a mothership is considered to have a lock-on to an Andromedan satellite ship inside of its hangar bay for purposes of launching that satellite ship (G18.55).

Electronic warfare can prevent displacement; see (D6.371).

(G18.2) ENERGY REQUIREMENTS

(G18.21) ARMING: Each displacement device requires two units of power (from warp engines or warp reactors only) on each of two consecutive turns to charge. A DisDev could begin arming with reserve warp power (H7.2), but is under the restrictions of (H7.32) regarding its use.

(G18.22) HOLDING: An armed displacement device which is not used on the second turn of arming can be held in an armed condition for a maximum of 25 turns at an energy cost of one point of power per turn (from any source). This power must be allocated; it cannot be reserve power. If no holding power is allocated, the charge in the displacement device is lost.

(G18.3) OPERATIONS

(G18.31) DIRECT-FIRE SYSTEM: A displacement device, in effect, operates as a direct-fire "weapon" that does not damage the target but relocates it.

(G18.311) The intent to use a displacement device must be announced in the DisDev Declaration Step of the Fire Allocation Stage (6D1) of the impulse it is to be used. The unit operating the device, the target, and the direction (but not distance) to be displaced are announced at that time. The hex to which the ship is displacing must be recorded, but does not have to be announced until after Direct-Fire is resolved.

(G18.312) The device is operated during the Direct-Fire Weapons Consequences Stage (6D5) of the Direct-Fire Weapons Segment.

(G18.32) PROCEDURE: There are three cases in which a displacement device can be used. Each has a slightly different procedure, but all of the procedures use two steps: the first to determine if the unit was displaced and the second to determine if it was displaced in the intended direction (and distance). If an Andro and a non-Andro ship are docked together, and another Andro attempts to displace the combination, (G18.323) is the operative rule.

(G18.321) NON-ANDRO DISPLACEMENT: When used against a non-Andromedan unit, the first step is to determine if the displacement worked and the second is to determine (if the displacement was successful) where the target was displaced.

Whether or not the device has functioned successfully against a non-Andromedan target is determined by the DISPLACEMENT DEVICE SUCCESS TABLE (G18.33). Roll one die (adjusted for the EW shift), and compare the result with the stated numbers for the range from the ship using the displacement device to its target. This will show whether the device has successfully displaced the target or not. If the result is a success, proceed to (G18.4) to determine where it went. If it is a failure, there is no effect (the target is not displaced; the energy that armed the DisDev is lost) and play proceeds.

(G18.322) SELF-DISPLACEMENT: If an Andromedan ship is trying to displace itself, this is automatically successful; it does not use the chart in (G18.33), and there is no EW applied. Proceed to (G18.51).

(G18.323) OTHER-ANDRO DISPLACEMENT: If one Andromedan ship is using a displacement device on another, the displacement is successful on a die roll of 1-5 for all ranges (adjusted for the EW shift), up to the maximum range of 50 hexes. Proceed to (G18.52). If the 1-5 die roll was a failure, there is no effect (the target is not displaced; the energy that armed the DisDev is lost) and play proceeds.

NOTE: The EW shift between two Andromedan ships includes only terrain-induced ECM, ECM produced by either unit performing Erratic Maneuvers, the ECCM of the ship operating the device, and any OEW applied to the ship operating the device.

(G18.33) DISPLACEMENT DEVICE SUCCESS TABLE

RANGE	0	1-2	3-15	16-22	23-31	32-50
Success	–	1-5	1-4	1-3	1-2	1
Failure	1-6	6	5-6	4-6	3-6	2-6

(G18.4) EFFECT ON NON-ANDROMEDAN UNITS

(G18.40) PROCEDURE: If the device has been operated successfully, the target ship [or other object, see (G18.7)] is displaced randomly. The target ship (or other object) is moved to a new hex determined by rolling two dice. The first die determines direction, using the directional display printed on the map. The ship is moved in this direction a number of hexes equal to the second die roll. This can result in the displaced ship being more than 50 hexes from the displacing unit.

(G18.41) CONTROL OF DISPLACEMENT: The Andromedans have some limited control over the displacement device when it is used offensively (i.e. on non-Andromedan units). To account for this, the Andromedan player announces one directional number and a second number that will be substituted if the first number appears. For example, the Andromedan player might announced that any "3" will become a "6." If the first die roll is a "3," the target ship is, instead, displaced in direction "6." If a "6" had been rolled, it would NOT have become a "3." This rule will be used most often to avoid displacing the enemy unit directly toward the Andromedan. Alternatively, it can be used to bring the enemy closer to your weapons.

(G18.42) FIRE CONTROL: After a non-Andromedan ship is displaced, its fire control is disrupted; see (D6.68). (Shuttles also have their fire control disrupted and are treated as ships under that rule.) If a displacement device is destroyed, your displacement is canceled. Since no displacement, not even a displacement attempt, actually took place the ship is unaffected by the displacement attempt.

(G18.421) A displaced ship with disrupted fire control can fire at the unit which displaced it with undisrupted fire control. Once the fire control returns to normal, the unit can fire normally.

(G18.422) As displacement of the firing ship breaks a PPD wave-lock (E11.545), a displaced ship which had a PPD wave-lock loses it [any remaining unfired pulses are lost, (E11.54)], even if it was to the the unit which displaced it. It could, of course, immediately fire another PPD at the unit which displaced it. The wave-lock is not broken if the target (of the PPD) is displaced (E11.44).

(G18.423) If the displaced ship was generating a stasis field, the field is broken; see (G16.34).

(G18.424) The displaced unit can continue guiding any seeking weapons it was guiding at the time it was displaced if they are targeted on the unit which displaced it (provided this is possible within the rules on those seeking weapons) if all the conditions of (F3.31) are still satisfied. It cannot launch new seeking weapons or accept transfers of control from other units until its fire control returns to normal. Any weapons it was guiding to other targets can be transferred to other allied units within the rules, but must be transferred immediately.

(G18.425) Seeking weapons displaced by a unit other than the one they were tracking lose lock-on. Seeking shuttles will go inert (FD1.72) unless they were on a ballistic trajectory, in which case it is treated under (F4.5). Displaced plasma torpedoes will "go ballistic" and continue to move in a straight line down the current hex row they are facing and may impact a planet or other large object. [The term "other large object" refers to objects of planetary size. In the case of a moon, use (P2.231).] Drones will be removed from play unless they were on a ballistic trajectory, in which case they are treated under (F4.5).

(G18.43) MANEUVER: The displaced unit's Turn Mode (C3.0), sideslip mode (C4.1), directed Turn Mode accumulation (C3.8), acceleration (C2.2), Tactical Maneuvers (C5.0), HET restrictions (C6.38), disengagement by acceleration (C7.1), deceleration period (C8.3), post-declaration period (C8.4), positron flywheel effect (C9.0), Erratic Maneuver status (C10.0), nimble status (C11.0), and plotted (C12.0) or unplotted (C12.24) mid-turn speed changes are all unaffected by being displaced. See (G18.69) for the effects of displacement on the actual facing of a displaced unit.

(G18.5) EFFECT ON ANDROMEDAN SHIPS

(G18.51) SELF-DISPLACEMENT: If an Andromedan ship uses its displacement device on itself, it is automatically successful (G18.322) in displacing itself, but the direction and distance may be affected. See also (G18.53).
(G18.511) Roll one die; on a result of 1-5 adjusted for EW [note that this adjustment can only be caused by offensive EW (G24.219)], the Andromedan player can control the direction (which need not be directly along the hex grain) and distance (up to twelve hexes) of the displacement. An Andro announces his displacement direction by defining a shield arc, as he is not limited to moving down a single hex row. This die roll is not affected by legendary officers or outstanding crews, but might be affected (the three ECM penalty) by a poor crew.
(G18.512) If the (adjusted) die roll in (G18.511) is six (or more), the displacement has failed to function properly. Roll a second die (there are no adjustments). If the result is 1-5, the ship remains in the original hex but is otherwise treated as having been displaced, e.g. (G18.53) and (G18.61). If the result is six, the ship is displaced randomly, using (G18.40), i.e. roll one die for direction and roll another for distance.
(G18.513) An Andromedan ship cannot displace itself unless its fire control is active (D6.6) and undisrupted (D6.68). A lock-on to the hex the Andromedan is attempting to displace to is not required, and an Andromedan ship can displace itself to the opposite side of a gas giant (P2.22), for example. There is an exception in (D21.45).

(G18.52) FRIENDLY DISPLACEMENT: If used on a different Andromedan ship, the procedure is the same as in (G18.51) but the ship can only be moved six hexes under (G18.511) and a die roll is required for success (G18.323).
(G18.521) This friendly displacement can result, either intentionally or through the random die roll, in the displaced ship being more than 50 hexes from the displacing ship, e.g. an Andromedan ship 50 hexes from the displacing unit is moved to 56 hexes from the displacing unit.
(G18.522) Attempts to displace a friendly ship may be affected by electronic warfare (G18.323).

(G18.53) FIRE CONTROL: After an Andromedan ship is displaced (by itself or another Andromedan), its fire control is disrupted (D6.68). A displaced unit recovers from disrupted fire control at the same point in the impulse procedure that it was displaced, thus a unit would recover on the fourth impulse but would not be able to fire direct-fire weapons without the restrictions of (D6.68) until the fifth impulse. See (G18.42) for non-Andro units.

(G18.54) NO SELF-LAUNCH: An Andromedan ship cannot use its own displacement device to launch itself from inside the hangar bay of a mothership, starbase, or any other hangar. Exception: (D21.45).

(G18.55) SATELLITE SHIPS: A mothership can use its displacement device to launch, but not recover, its own satellite ships. See (G19.42).

(G18.56) MANEUVER: All effects listed under (G18.43) also apply to Andromedan ships which have been displaced. In addition, see (G19.44).

(G18.6) RESTRICTIONS AND CONDITIONS

(G18.61) MULTIPLE DEVICES: No more than one displacement device can be used on (i.e. fired at) a single object in a single impulse, or within four impulses (1/8 turn), whether it was successful or not. No more than one displacement device can be used to displace a single Andromedan unit within 32 impulses, but if an attempt to displace an Andromedan unit fails completely (i.e. no change in hex location), a second attempt with another device can be made after four impulses have passed.

(G18.62) MANEUVER EFFECTS: Displacement does not affect and is not affected by emergency deceleration (C8.0) or Erratic Maneuvering (C10.0), except (C10.515). [The ECM produced by EM may affect the probability of success (C10.41).] For the effects of displacement on the maneuver status of the displaced unit, see (G18.43) and (G18.56).

(G18.63) PLOTTED MOVEMENT: The displaced unit continues its movement as previously plotted (if using plotted movement), except that it is displaced the stated number of hexes in the stated direction.

(G18.64) SEEKING WEAPONS, PPDs: All seeking weapons targeted on the displaced unit continue to follow their target, assuming the conditions in (F3.31) are still met. (The effects of the shift allow seeking warheads to rapidly re-establish the identity of their designated target.) If the displaced unit was loaning EW to another unit (or receiving a loan), the loan continues uninterrupted [assuming that both units still meet other requirements (G24.2181)], such a unit would be unable to initiate any new lending until its fire control was no longer disrupted. See (E11.44) for PPDs, which are like seeking weapons in some limited regards. Displacing a Wild Weasel (J3.0) or a unit protected by a Wild Weasel will not of itself void the weasel or interrupt its effect unless such displacement moves the units more than 35 hexes apart (J3.42).

(G18.65) ASTEROIDS, MINES, ESGs: Displacement into an asteroid belt or field (P3.0), planetary ring (P2.223), or minefield (M6.0), or in the detection range of one or more mines [see (M2.4), (M3.31), and (M5.12)] is not movement and does not, itself, cause damage (or a mine to trigger). Further movement will (or might) cause such damage (or triggering) during the normal Sequence of Play subject to the rules for each individual item. This also applies to ESG fields and includes the case of a ship which has generated an ESG field being displaced in such a manner that the new position of the field coincides with the position of another unit. A unit displaced into an ESG hex is always outside the ESG. If two ESG fields come into contact, see (G23.73).

(G18.66) STARS, PLANETS: If a unit is displaced into a hex containing:
a planet (P2.0) [including a lower atmosphere hex (P2.222)],
black hole (P4.0),
pulsar (P5.0),
white dwarf (P10.5),
star (P12.1),
nova wave front (P12.3) or behind it,
neutron star (P15.5),
it is considered to be totally destroyed; do not use (P2.435) as there is no explosion or escape.
If displaced into a hex with a small moon, see (P2.23). If there is a collision, treat it as above.
If displaced into a hex currently occupied by a gravity wave, the ship is immediately damaged by that wave (P9.22) out of the normal sequence of play.
(G18.661) If a unit is displaced into an atmosphere hex (that is not a planetary surface or lower atmosphere hex), its speed is immediately reduced to one, it must roll for a breakdown (C6.5) (it can use its HET bonus if it has one), and it takes one point of damage on its #1 shield (#4 if it was moving in reverse) for each point of speed lost. This is an exception to (P2.812). Other than this rule and the EW effect (P2.51), atmosphere has no effect on displacement.
(G18.662) Except in the case of stars and planets (and possibly moons), it is not possible to displace an object into the exact space occupied by another object (i.e. you cannot displace a frigate into your opponent's bridge). Note that other "stellar" and "planetary" bodies are accounted for, but all are essentially versions of suns and planets.
(G18.663) A unit (or other object) can be displaced from, but not to, the surface of a planet or asteroid. See (P2.52).

(G18.67) WEBS, TRACTORS: These systems have special interactions with displacement devices.
(G18.671) Units can be displaced across web hexes. While a displacement device can be used to send a ship across a web, a displacement device cannot be used by one unit on a second unit that is on the other side of a web. A unit can be displaced out of a web hex if the unit with the displacement device has a line-of-fire (G10.61) that is not obstructed by other web hexes; Exception: a Tholian ship or anything else serving as a web anchor (G10.13) cannot be displaced without its permission. A web anchor buoy (G26.0) anchoring a web cannot be displaced. A ship can displace itself out of a web hex. A unit can only displace over a single strand of web, not over multiple strands, in a single displacement. In this case, the ship would

materialize in a hex of the second web. Displacing out of a web hex counts as displacing across it for all purposes.
(G18.672) Tractor beams are broken if one of the ships involved is displaced. This does not apply in the case of docked ships (C13.9) and Tholian pinwheels (C14.0), which are all displaced together as a unit; see (C13.946) and (C14.41).

(G18.68) DISENGAGEMENT: A displacement device does not, in itself, allow a unit to disengage. It could, however, be used to increase the distance between units and allow disengagement by separation (C7.2) or to meet the requirements for automatic disengagement (C7.4).

A unit cannot be displaced off of a fixed map. It would stop in the last hex at the edge of the map.

(G18.69) FACING: Displacement does not change the facing of the unit displaced. If a unit is displaced into a hex containing another unit, determine the relative direction between the units by rolling a die. The unit already in the hex is in the direction indicated (by the die) from the unit that arrived by displacement. See (G18.43) and (G18.56).

(G18.7) WHICH UNITS CAN AND CANNOT BE DISPLACED

(G18.71) THINGS WHICH CAN BE DISPLACED: Ships, PFs, interceptors, shuttles, fighters, drones, plasma torpedoes, most monsters, meteors, etc., can be displaced.

Bases without positional stabilizers can be displaced. Assuming they survive the experience, they will not move (at least not under their own power) for the remainder of the scenario.

Anything which, within its description or rules, says it can be displaced, can be displaced.

(G18.72) THINGS WHICH CANNOT BE DISPLACED: The Sun Snake (SM5.46), stars (P12.1), white dwarfs (P10.5), neutron stars (P15.5), planets (P2.0), moons (P2.23), asteroids (P3.0), large asteroids (P3.4), pulsars (P5.0), black holes (P4.0), webs (G10.0) [and web anchors (G10.13) without their permission (G18.671)], bases on planets (P2.744) or with positional stabilizers (G29.22), mines (M2.81), defense satellites (R1.15), certain docked units (G18.74), certain units inside other units (G18.73), anything in a stasis field (G16.47), and cloaked units (G13.58) cannot be displaced. Terrain "zones" (e.g. heat zones) cannot be displaced.

Anything which, within its description or rules, says it cannot be displaced, cannot be displaced.

Anything to which the unit operating the device does not have a lock-on (D6.124) cannot be displaced.

(G18.73) UNITS INSIDE UNITS: A displacement device cannot displace anything which is inside something else (crew units on a ship, ships docked in an FRD, etc.) [exceptions (G18.55) and (D21.45)], but if the larger item is displaced, everything located inside it will be displaced with it. A displacement device cannot be used to place anything inside some other unit (e.g. a dreadnought inside a carrier), although it could displace a ship inside a planet (G18.66).

(G18.74) UNITS DOCKED TO UNITS: Two (or more) units docked externally to each other are all displaced as a single element (C13.946) without breaking the dock if they can both be displaced.
(G18.741) A unit docked to an Andromedan ship cannot be displaced separately from the Andromedan ship it is docked to, even if it is that Andromedan ship which is operating the displacement device.
(G18.742) In the case of a ship docked to a unit or object which cannot be displaced, it cannot itself be displaced. Obviously, a unit which has "landed on" such an object (e.g. a planet) is not necessarily "docked" to it. See (G18.663).

(G18.75) LARGE MINES: Displacement Devices cannot be used to lay mines of any type or size.

(G18.8) DISPLACEMENT DEVICE FEEDBACK PHENOMENON

Due to the destabilizing effects of the displacement device, it would be very unusual for more than two ships equipped with that device to operate in the same area. If three ships used their devices in a given area, it would create a rip in the fabric of space, sending all three (but nothing else) to their doom. See (GC5.0) in *Module C3A* for a variation of these rules.

(G18.81) AREA: The term "area" can generally be considered to be one scenario. (For those wanting a more exact measure, assume that an "area" is at least 10,000 hexes across.) Generally, no more than two units in any scenario can use their displacement devices. The Galactic Powers never acquired displacement device technology (even after capturing several devices) and, hence, could never use this phenomenon as a means of defeating the Andromedans.

(G18.82) ARRIVAL RESTRICTIONS: As the displacement device is used in their strategic movement system, more than two ships with this device could never have gone to a specific area to begin with, except possibly by (G18.85). Thus, with the exceptions of the single starbase, no more than two DisDev-equipped ships could ever appear in a given scenario. Note that a Python, which has a displacement device, can be carried inside a larger unit to the site of the scenario, although it could not use the device (or even power it) if two other Andromedan units used them during that scenario (including using them to arrive in the scenario). By this means, it is possible that three DisDev-equipped ships could appear in a scenario (e.g. an Intruder carrying two Pythons) but only two of these ships could use the device in combat.

(G18.83) BASE EXCEPTION: The sole exception to the movement restriction is a base with stabilizers (G29.0) and a DisDev, where its stabilizers will allow the use of the device (by ships) for strategic movement purposes, or for launching and recovering satellite ships, but not for combat purposes. In a scenario involving the Desecrator starbase, any DisDevs used by the SB for the sole purpose of launching ships would not count against the limit. All other DisDev use would count against the limit of two units operating DisDevs.

(G18.84) SUCCESSION: If three ships equipped with the device are in a given area, and one of them is destroyed or has disengaged after using its device, the others can both use their devices (after a five-turn period) because the third ship is no longer in the area. (Note: the third ship would have to wait five turns before powering its DisDev.) Alternatively, if two DisDev ships were in an area and one was destroyed or disengaged, a third could then arrive after the five-turn delay.

(G18.85) NON DIS-DEV STRATEGIC MOVEMENT: It is possible for the Andromedans to assemble more combat power to attack a fixed point (e.g., a planet or base) by having the ships arrive at different times or from different directions, making the final approach by normal movement (rather than DisDev assisted movement). This type of approach would be detected and would give the defender time to assemble a more powerful defensive force (more so than with Galactic enemies as Andromedan ships are somewhat slower when not using the RTN). There is also a problem in that survivors of the battle would not be able to return to their distant bases effectively and might be hunted down and destroyed. For all practical purposes, this can be done only in a specific scenario, where special rules to cover the circumstances would be provided. See (G18.68).

Note that Andromedan bases are reasonable places for collections of satellite ships to gather (perhaps dropped off by an Infestor) for pick up by Motherships needing replacements. It would not be unusual for an Andromedan Satellite Base, for example, to have several satellite ships available to defend it when it was attacked even if no mothership were present.

(G19.0) ANDROMEDAN SATELLITE SHIP OPERATIONS

The large Andromedan "motherships" (including the Intruder and Dominator) carry small "satellite ships" (including the Cobra, Courier, etc.) in a special internal hangar bay.

For the purposes of these rules, the larger ships are known as "motherships." All satellite ships operate within the following general rules.

The official abbreviation for satellite ships is Sat Ship; SS is not used due to confusion with "suicide shuttle."

Note that some Andromedan bases will also have satellite ships and, for purposes of these rules, will operate as a "mothership."

(G19.1) GENERAL CONDITIONS

(G19.11) SATELLITE SHIP GROUPS: Normally, each Andromedan mothership carries a full complement of Sat Ships at all times. The ship descriptions of all motherships include a listing of common Sat Ship groups by year. It would be possible for a mothership to have less than its normal complement of Sat Ships, it being assumed that the others were on patrol elsewhere or destroyed in an earlier combat; some motherships were used to place Satellite Bases (R10.11) and would have empty hangar spaces after completing that assignment. Rarely a mothership could carry a different assortment of Sat Ships; this would be possible in a patrol scenario (S8.0) only with prior agreement. A mothership can replace sat ships with energy modules or pseudo-satships without permission of the opponent.

(G19.12) BPV: The BPV of an Andromedan mothership does not include its Sat Ship(s).

(G19.13) SURVIVAL: If the mothership is destroyed in combat, the Sat Ships can still disengage under the provisions of (C7.0) and reach a rendezvous or base on their own power or be picked up later by another mothership if they dropped their warp engines and sublight evaded (C7.3). See (T7.0) and (G19.31).

(G19.14) MOVEMENT COST: The movement (or towing) cost of the mothership is not changed by the presence or absence of Sat Ships in the hangar, but if the satellite ships are towed by a tractor beam, the standard rules in (G7.0) will apply.

(G19.2) THE HANGAR

(G19.21) CAPACITY: Each hangar box on the SSD sheet of the mothership represents the capability to carry or dock by transporter (G19.41) one medium-size Satellite Ship. See (R10.1D4) for more data.

(G19.211) Sat Ships come in three sizes: small, medium, and large. The hangar boxes on all Andromedan SSDs indicate the capacity to carry medium-size Sat Ships (one per box). All Sat Ships are size class 4; hangar-size is not "size class," and rules involving the relation of two different size ships (e.g. tractor rotations) treat all Sat Ships equally.

(G19.2111) SMALL SATELLITE SHIPS are 3/4 of the size of medium-size Sat Ships. Motherships with three bays (e.g. Intruder) were originally designed to carry four small Sat Ships, but were later modified to carry three medium Sat Ships. Ships with six bays (e.g. Infestor, Dominator) were originally designed to carry eight small Sat Ships. Small Sat Ships include the Viper, Courier, Bull Snake, and Rattler among others. Ships with one hangar bay (e.g. Conquistador) can carry one small or medium Sat Ship; they can never carry a large Sat Ship. For convenience, just add another box to each group of three hangar boxes on the SSD.

(G19.2112) MEDIUM SATELLITE SHIPS are those the SSDs are designed for. These include the Cobra, Terminator, and Eel among others.

(G19.2113) LARGE SATELLITE SHIPS are 1.5 times as large as medium Sat Ships (twice as large as small ones). Motherships with three hangar bays (e.g. Intruder) were later modified to carry two large Sat Ships. Ships with six hangar bays (e.g. Infestor, Dominator) were later modified to carry four large Sat Ships. For convenience, just mark out one box from each group of three hangar boxes on the SSD. Large Sat Ships include the Python and Mamba among others. Ships with one hangar bay (e.g. Conquistador) can carry one small or medium Sat Ship; they can never carry a large Sat Ship.

(G19.212) Motherships were all originally designed to use small Sat Ships. When these were found to be inadequate in combat, they were replaced with medium Sat Ships. (Since most Andromedan combat is during this period, this is what the SSDs were designed with, but it makes no real difference as the hangars cannot be destroyed. Any motherships added to the game in the future will also have their bays configured for the medium Sat Ships and their "R" description will provide any specific limitations on their ability to carry Sat Ships.)

At the end of the General War, when more powerful warships were in use, the Andromedans began converting some motherships to use large Sat Ships as these were more capable and survivable.

Ships may also have hanger bays of mixed sizes as long as the total size of the bays is equal to or less than the size of the hanger (e.g. a Dominator could have two large and three medium satellite bays, or one large, three medium, and two small). Conversion of the hangar bays takes a major overhaul, but any hangar bay box can accept a single smaller Sat Ship.

(G19.213) Any shuttle hits scored on the mothership are scored on Sat Ships in the hangar. If more than one Sat Ship is present, the Andromedan player can select which one will take the damage, but the damage must be applied to a Sat Ship if one is present (G19.23). If no Sat Ships are present, the damage is applied to the next system on the DAC. The hangar itself cannot be damaged and is not destroyed unless the mothership is. All damage scored on the satellite ships during a given segment of the Sequence of Play is recorded as it occurs and is resolved as a single volley.

(G19.22) ENERGY FORM AND MOVEMENT PLOT: A Sat Ship in the hangar still must complete an Energy Allocation Form every turn, primarily because of its power absorbers and to allow it to be launched at will; see (G19.44). If using plotted movement (C1.32), a complete movement plot for the remainder of the current turn must be created for the Sat Ship in the Sat Ship Functions Stage, after the launch of the ship is announced but before rolling for possible random displacement if a DisDev is to be used to launch it (G18.52).

(G19.23) PA PANELS: Sat Ships in the hangar may use their power absorbers to prevent damage to themselves. Any damage scored on a Sat Ship in the hangar can be applied to the front or rear PA panels or (if the panels are full or inactive) to the Sat Ship itself.

(G19.24) DISSIPATION: The PA panels of Sat Ships cannot dissipate energy (D10.4125) while in the hangar.

(G19.25) TRANSFERS: The PA panels of the Sat Ship(s) and the mothership cannot transfer power between each other. The PA panels on a Sat Ship in the hangar can pick up energy released by a destroyed PA panel on the mothership or on another Sat Ship in the hangar (D10.42). The PA panels on the mothership can pick up energy released by a destroyed PA panel on a Sat Ship in its hangar. Released PA power is not "transferred power." Sat Ships in the hangar and the mothership cannot transfer power between themselves; exception: (G20.0).

(G19.26) REPAIR: The mothership may use its damage control to repair itself (D9.7) or a Sat Ship in the hangar; this is an exception to (D9.78). A Sat Ship in the hangar can use its damage control to repair itself, but not to repair the mothership. The repair boxes on motherships operate as in (G17.0); see also (G17.24). A mothership cannot use (D9.2) on a satellite ship (D10.541). For purposes of repairs under (D9.4), (G17.133), and (G17.132), use the damage control rating of the mothership to repair the satellite ships to reflect the use of (G17.0) systems between scenarios. Use the damage control rating on each satellite ship, then again on the mothership. Satellite ships without a mothership would use (G17.132) with their own DC rating; they probably would not have access to the facilities needed for (G17.133) repairs, but if they do may use them.

(G19.27) RESTRICTED SYSTEMS: A Sat Ship in the hangar is under the restrictions of (C13.48) and cannot use tractor beams, transporters, or electronic warfare (or anything requiring active fire control or a lock-on); it cannot fire weapons or operate scout functions.

(G19.271) Sat Ships in the hangar must expend energy for life support.
(G19.272) Sat Ships in the hangar can arm weapons [this is an exception to (C13.8)].
(G19.273) A Sat Ship in the hangar could use a transporter between itself and the mothership or another Sat Ship on board the same mothership; see (D10.524).
(G19.274) A Sat Ship's fire control is disrupted by the act of being launched (G19.46). It can have its fire control in the active mode, but will gain no benefit from this (e.g. will not have a lock-on) until four impulses after it is launched. If the fire control is kept passive, it will not gain the benefits listed in (D19.3) until 32 impulses after it was launched and cannot fire weapons on passive until four impulses after launch (G19.46).

(G19.28) CREW TRANSFERS: A Sat Ship in the hangar can transfer crew units to or from the mothership at a rate of one unit per impulse in the Marines Activity Stage (6B7) of the Impulse Activity Segment, but cannot make transfers for the eight impulses after it arrives in the hangar. See (D21.45) for a partial exception. Cargo transfer is possible using (G25.23).

(G19.29) NO TRACTORS NEEDED IN HANGAR: No tractors or tractor energy is required to hold a satellite ship inside a hangar.

(G19.3) EXPLOSIONS AND SELF DESTRUCTION

(G19.31) ESCAPE: If the mothership explodes or self-destructs, the Sat Ships can attempt to escape by (D21.45). If (D21.0) is not in use, or if the Sat Ships fail to escape (perhaps because they do not have DisDevs or the mothership does not have enough DisDevs or transporters), the explosion force of the Sat Ships in the hangar are added to the mothership's explosion force. The Sat Ship explosion force is NOT doubled as it would be under (G19.32).

(G19.32) EXPLODING SATELLITE SHIP: If a Sat Ship in the hangar explodes as a result of self-destruction (this can only be done if the mothership has been captured and there is no way for the Sat Ship to launch itself) or final explosion (D5.0), determine the total explosion force for the Sat Ship from the MSC and double it due to the contained nature of the blast. This amount is considered to be released damage/energy within the energy balance system of the mothership; it is not treated as an explosion as per (D5.4).

Note that a Sat Ship in the hangar bay of a captured mothership could turn off its panels to release any energy held to fill the mothership's panels on the final impulse of a turn, and then self-destruct at the start of the next turn.
(G19.321) The released energy can be applied to any power absorbers of the mothership and any other Sat Ships in the hangar. (Note: Even though PA panels face outward, the hangars are designed to dump their energy to the panels by special conduits.) Any such power that cannot be absorbed is treated as internal damage against the mothership or other Sat Ships in the hangar. (The Andromedan player must decide how many points will be applied against each ship before resolving any of the damage.) This is a partial exception to (D5.41).
(G19.322) If this damage results in the destruction of the mothership, then proceed to (G19.31). Note that in this case the Sat Ship which exploded is not counted as part of the mothership's explosion, although any damage points produced in excess to the number required to destroy the mothership are divided in half (to convert them back to basic explosion points, round fractions of 0.5 up to the next whole number, the "other half" is lost) and added to the mothership's explosion.

EXAMPLE: An Intruder is holding a Cobra; both are badly damaged. The Cobra is destroyed and explodes, producing an explosion of (13x2=) 26 points. The Andromedan player begins applying these points, one at a time, to the Intruder. After eleven points are applied, the Intruder is destroyed. When calculating the explosion of the Intruder, do not add the 26 points from the Cobra's explosion, but do add half of the unallocated fifteen points (i.e. eight) from that explosion.

(G19.4) LAUNCHING AND RECOVERING SATELLITE SHIPS

An Andromedan ship can launch its Sat Ships by transporter or by the displacement device. It can recover them by the use of transporters. The hangar does not have an external hatch; Sat Ships can only be launched and recovered as stated herein. See also (R10.1D4) for more information on the hangars.

(G19.41) TRANSPORTERS can be used to launch or recover Sat Ships. Transporters cannot be used to move Sat Ships (G19.414). See (GC6.0) in *Module C3A* for a variation on these rules.
(G19.411) If launched by transporters, there must be one transporter available on the mothership and the necessary power for that size Sat Ship must have been applied to it; this may have been reserve power (H7.0). The Sat Ship can be transported to a hex within five hexes of the mothership within the limits, requirements, and conditions of the transporter rules (G8.0). Facing is selected by the owning player at the time of launch and is not related to the facing of the mothership in any way. Transporters used for this purpose cannot, on the same turn, be used for anything else, including another Sat Ship launch.

SIZE	POWER REQUIRED
Small	3 points
Medium	4 points
Large	6 points

(G19.412) Sat Ships can be recovered by transporters. The recovering mothership must have a transporter available and must have applied the appropriate amount of power, which may have been reserve power, to that transporter as shown in (G19.411) above. A Sat Ship can be recovered from anywhere within five hexes, within the limits of the rules on transporters (e.g. mothership must have active fire control and a lock-on to the Sat Ship).
(G19.413) Only the mothership can launch Sat Ships from or recover them to its own bay; another ship cannot do this for it. The Sat Ship cannot use its own transporters to launch (or recover) itself. Sat Ships can be recovered by and later launched from any mothership, subject to bay size (G19.211).
(G19.414) Andromedan satellite ships cannot transport other Andromedan ships. Andromedan ships cannot transport any ship except as part of a launch or recovery operation.
(G19.415) Andromedans have a small base (R10.11) which can be carried as a satellite ship. Due to various rules [including but not limited to (G29.22) and (G29.24)], such a base cannot be picked up if its stabilizers are active, and when placed will not have its stabilizers active. Stabilizers cannot be activated during a scenario (G29.12).
(G19.416) Transporters can transport a satellite ship (or a cargo module or satellite base) directly to or from a planetary surface. See (G18.663) for displacement devices. Satellite ships not normally able to land on planets, can be transported to a planetary surface. Such a satellite ship could not take off on its own unless normally able to land and takeoff from planets, but could be recovered by transporter.

(G19.42) DISPLACEMENT LAUNCH: If launched by a displacement device, use the procedure in (G18.52). The displacement device is not accurate enough to be used in recovering a Sat Ship (G18.55). See (G19.44).
(G19.421) There must be a powered displacement device on the mothership to use this procedure.
(G19.422) One Andromedan ship cannot use a displacement device to launch a Sat Ship from a different mothership.
(G19.423) Sat Ships cannot self-launch using a displacement device, except under (D21.45).
(G19.424) If the displacement fails, the satellite ship is not launched and the energy in the DisDev is lost. The satellite ship cannot be launched for eight impulses. If the displacement is random (G18.323), proceed normally.

(G19.43) INACTIVE SHIPS: Sat Ships on an inactive mothership are governed by (D18.17).

(G19.44) LAUNCH AND RECOVERY CONDITIONS
A Sat Ship may be launched and recovered during any impulse of the turn.
(G19.441) A Sat Ship launched during a turn would have only a pro-rata portion of that turn's movement but must pay the energy cost for the full-turn's movement, and it cannot make plotted speed changes during the entire turn of launch. (i.e. a Sat Ship in the hangar cannot plot speed changes.)
(G19.442) The Sat Ship cannot exceed a practical speed (C2.411) of ten during the complete turn (32 impulses) after it is launched or for sixteen impulses before it is recovered. A satellite ship may begin using Erratic Maneuvers immediately (same impulse) upon launch by transporter or displacement device.
(G19.443) A given Sat Ship cannot be launched and recovered (by any means) on the same impulse (or within eight impulses); exceptions: (G19.47) where it can be launched by one ship and recovered by another at the same instant and (D21.45) escape.
(G19.444) Whether a satellite ship is held in a tractor beam or not at the time of its recovery is irrelevant to the recovery, the transporting of the satellite ship aboard the mothership breaks the tractor.
(G19.445) Unless otherwise provided in scenario rules, satellite ships listed with a mothership may begin a scenario already launched or aboard the mothership at the Andromedan player's option. The Andromedan player can have some satellite ships already launched, and some retained aboard the mothership. Deployed satellite ships are at the same speed (if they are capable of it, otherwise they must be at their maximum possible speed) and weapons status of the mothership. If the mothership is moving Speed 11 or greater, the deployed satellite ships are presumed to be moving at the same speed and cannot be recovered during the first turn (G19.442).

(G19.45) NON-ANDRO SHIPS: There is no provision within these rules for transporting an enemy (non-Andromedan) unit into the hangar (or anywhere else, for that matter) or launching it from the hangar. While such rules may be introduced at a later time, until that time such an action is prohibited.

(G19.46) FIRE CONTROL: A Sat Ship's fire control is disrupted (D6.68) by being launched whether it was in active or inactive mode and whether it was launched by transporters or a DisDev. A Sat Ship cannot gain the passive fire control bonus (D19.31) until 32 impulses after launch (assuming its fire control was inactive during this period).

(G19.47) DIRECT TRANSFER: Two Andromedan motherships can transfer a Sat Ship directly from one hangar to the other by using transporters.
(G19.471) Each ship must have a transporter dedicated to this mission, and each must expend the required power to transport the satellite ship (G19.41). All other conditions for satellite ship launch and recovery (e.g. active fire control, five-hex maximum etc.), and the use of transporters, must be met.
(G19.472) The hangar box receiving the Sat Ship must be empty before the transfer begins; two Sat Ships cannot be simultaneously exchanged.
(G19.473) The transfer can be detected and must be announced.
(G19.474) No more than two motherships can be involved in this transfer, and the satellite ship can only be transferred once per turn and not within eight impulses of its transfer on a previous turn. It is not possible for one mothership to launch a satellite ship and another to recover it simultaneously (or within eight impulses).
(G19.475) Displacement devices cannot be used for this purpose.

(G19.48) SEEKING WEAPON AND PPD TARGETS: Any seeking weapons targeted on the Sat Ship accept the mothership as their target when the Sat Ship is transported on board, subject to any restrictions on the seeking weapons themselves [such as those in (F3.31)]. Seeking weapons targeted on a mothership do not transfer to Sat Ships when they are launched.

Similarly, a PPD which has a wave-lock on a Sat Ship which is subsequently transported aboard a mothership will accept the mothership as a target. New conditions (such as intervening terrain or the mothership's higher ECM) may result in the wave-lock being broken (E11.54) or require a re-roll for wave-lock; see (E11.44).

(G19.49) LARGE MINES: Andromedan ships cannot lay large mines by transporter (M2.115). See also (G18.75). See (GC6.4) in *Module C3A* for an exception to this rule.

(G20.0) ANDROMEDAN ENERGY MODULES

Carried by the Andromedan Dominator class, and sometimes by other classes or bases, energy modules (Emods) are unmanned mechanical devices the size of a small, medium, or large Sat Ship carried in the hangar bay. Their sole purpose is to act as a means of disposal for excess energy in a combat situation. See (GC8.0) in *Module C3A* for variations on energy modules.

(G20.1) DEFINITION

(G20.11) FUNCTION: An energy module is treated as a Sat Ship for most purposes. The energy module is launched and recovered in the same manner as a Sat Ship (G19.4) and for the same cost as a Sat Ship of its size (G20.2). However, it is unmanned, it does not move, and it takes no action of any kind except as noted in these rules.

(G20.12) ENERGY: An energy module does not fill out an Energy Form, although records must be kept of the energy in its panels and any damage it has taken.

(G20.13) MOVEMENT: Energy modules cannot move. They can be towed at a movement cost equal to that of a Sat Ship of the same size.

(G20.2) CONSTRUCTION

The designation EMO is used for Energy Modules in general.

(G20.21) SMALL (EM-S): The small energy module has six PA panels (360° facing), each of which can hold ten points of energy. See (R10.13A). It is the size of a small satellite ship.

(G20.22) MEDIUM (EM-M): The medium energy module has eight PA panels (360° facing), each of which can hold ten points of energy. See (R10.13B). It is the size of a medium satellite ship.

(G20.23) LARGE (EM-L): The large energy module has twelve PA panels (360° facing), each of which can hold ten points of energy. See (R10.13C). It is the size of a large satellite ship.

(G20.24) POWER: These panels have their own power supply (not shown on the SSD) and are always operated at reinforced level.

(G20.25) DAMAGE: See (G20.42) for resolving damage on an energy module.

(G20.3) OPERATIONS

(G20.31) POWER TRANSFER: If an energy module is in the hangar, energy can be transferred into the module's panels from the mothership's or base's panels or from the panels of other Sat Ships in the hangar. PA panels and batteries from the mothership or other Sat Ships in the hangar can be discharged into the module on any impulse during the Sat Ship Launch Step of the Sequence of Play. Power cannot be transferred into the module within 1/2 turn (sixteen impulses) of recovery. Power [other than that released by (G20.42) or damage points scored by (G19.31), neither of which is "power" in the proper sense] in excess of what the module can hold cannot be transferred to the module by any means. There is no limit to the amount of power which can be transferred to the energy module, subject to the limits of its capacity.

(G20.32) PA PANELS: While it is in the hangar, the PA panels on the module can, within their limits, pick up any energy released inside the ship as any other Sat Ship can.

(G20.33) DISSIPATION: While outside of the hangar, the energy module can dissipate energy at a rate of four energy points per panel per turn; this is done in the Power Absorber Accounting Stage of the Record Keeping Phase. If in an atmosphere, it can dissipate energy at double this rate.

If hit by enemy fire, it can absorb the damage into the PA panels (disregarding direction).

(G20.34) TRANSFERS: Energy cannot be taken out of an energy module and transferred to the mothership's batteries or PA panels. Energy cannot be transferred voluntarily from an Energy Module to a satellite ship.

(G20.35) SELF-DESTRUCTION: An Emod cannot self-destruct.

(G20.4) COMBAT AND DAMAGE RESOLUTION

(G20.41) DAMAGE ABSORPTION: While in the hangar, the module can absorb power from hits on the hangar bay or from destroyed PA panels on the mothership or other Sat Ship(s) in the hangar.

(G20.42) DAMAGE RESOLUTION: Do not use the DAMAGE ALLOCATION CHART (D4.21) for the module. Use the damage procedures in (D10.3) until the panels are full; however, there is no "degradation" and there are no "leaks."
(G20.421) Rather, every twelfth damage point scored on the energy module after all of its panels are full destroys one PA panel. (This is a running total. The other eleven points cause no other effect than an increase in the running total.) Destroyed PA panels release their energy into the EMO. If not picked up by other panels (which could only happen if the EMO was inside a hangar), this energy is scored as internal damage on the EMO (which would mean ten of the twelve points to destroy the next panel). When all PA panels are destroyed, the energy module is destroyed; it does not explode.
(G20.422) If inside the hangar of a mothership, the energy module is treated as per (D10.424); any released energy is handled within the mothership's energy balance.
(G20.423) If the energy module is destroyed in the hangar, the released energy (G20.421) is treated as (D10.424).

(G20.43) REPAIR: The energy module can be repaired during the scenario by the repair systems on the mothership (G17.0). [Other repair systems, such as (D9.2), (D9.7), or (D14.0), cannot be used on an EMO.] Each point of damage (G20.42) on an energy module (twelve per panel) costs one repair point to repair. Do not use the cost for destroyed PA panels; repair each of the damage points separately. Each panel functions normally unless it was destroyed by the required twelve points of damage. Only one panel on an energy module can be in a "damaged" condition at any one time (the rest would be destroyed or undamaged); if several panels were destroyed, you could not repair one point on each of them. A damaged EMO on a mothership will be fully repaired between scenarios under (G17.132).

(G20.44) CAPTURE: While an Emod cannot be boarded during a scenario, it could be captured if it was towed out of the scenario by a ship or if all other Andromedan units were captured, destroyed, or disengaged. It would count as a "captured ship" for (S2.21).

(G20.5) COMBINED EXAMPLE OF OPERATIONS

A Dominator has a small energy module (EM-S) in its hangar. The Dominator is in serious combat, and all of its PA panels are full. A few damage points are scored; two of which are scored on the hangar. The module picks these up. One damage point destroys one PA panel of the Dominator, releasing its energy. These ten points are picked up by the module. The Andromedan player realizes that something must be done. During the next impulse, he transfers 48 units of power from his panels into the module, giving it 60 points, its maximum capacity. On the next impulse, he launches it. The enemy fires at it, scoring fourteen damage points. These destroy one panel, releasing its ten points. These, with the two left over points, destroy another panel, releasing ten more points. At the end of that turn, the module has only four panels left, all of which are full (ten points each). Also, it has ten points of damage toward destruction of another panel. During the record-keeping phase at the end of the current turn, it dissipates four units of energy per panel, leaving 24 (six in each).

Note the tactical implications of the situation. The module gives the mothership a chance to dump an extra 60 points from its panels. If the launched module is not destroyed in combat, it can be recovered and re-used. If it is destroyed, the mothership has at least diverted attention from itself.

(G21.0) CREW QUALITY *(Optional)*

The quality of crews as a whole, and of individuals within those crews, is generally excellent among the various empires. When you consider that most of them are selecting the crews for less than 100 first-line starships (and only a few hundred more ships of all kinds) from among 10-30 (or 100) billion individuals, this is hardly surprising. In some cases, however, the crews become uncommonly superior in their performance or incredibly bad. These rules account for this.

(G21.01) LEVELS OF QUALITY: Starship crews can be classified as "poor" (also rotten, lousy, or incompetent), "excellent" (the "average" starship crew is, indeed, awfully good at what they do), or "outstanding." A fleet organization of 100 ships might have ten poor crews and five outstanding ones at any given time. Players setting up campaign games can use (G21.3).

It should be noted that CV, CA, and CL classes will historically probably have the highest proportion of outstanding crews, due to their longevity in combat. At the start of hostilities, smaller ships (which see more action in peacetime) will tend to have better crews. Dreadnoughts (and all size class 2 ships) never have outstanding crews. Bases and scouts always have average crews. Approximately 50% of civilian/merchant ships have average crews; the remainder have poor crews. These conditions apply at the start of a war or campaign; thereafter all units will improve or worsen as per the rules.

Detached booms of Klingon penal ships (R3.R5) do not have poor crews. These are treated as average crews from the instant of separation. Pods added to a tug are treated separately for crew quality.

(G21.02) METHODS OF ADJUSTMENT: In the case of the various adjustments provided herein, an instruction to add one to the die roll that makes the result greater than the highest number on the chart (usually six) is ignored unless it is on a table (such as a weapon table) that allows a column shift as in EW. A negative modifier cannot shift to a lower range column (E1.83). In percentage adjustments, an adjusted total of .5 or more is rounded up; one of .499 or less is rounded down.

(G21.1) POOR CREW ADJUSTMENTS

For a "poor" crew, the following adjustments are made:

(G21.11) COMBAT: Ships with poor crews have certain penalties in combat. These are:
(G21.111) DIRECT-FIRE WEAPONS: Weapons fire at all enemy units is treated as if those units had three points of ECM in addition to any they are generating, being loaned, or receive due to terrain. This is "natural" ECM not within the lending (D6.3144), O-EW (D6.3145), and self-generated (D6.3141) limits. Note in (D6.3) that most modifiers (terrain, small targets, crew quality) are calculated in terms of EW even if the Commander's level EW rules are not in use.
(G21.112) EW: Ships with poor crews are less efficient when using electronic warfare.

(G21.1121) Ships with poor crews receive one point less EW (ECM or ECCM) than they allocate energy for. For example, a ship allocating three points of energy to EW loses the first one and can use the other two for ECM or ECCM within the limits of the rules (D6.3141). Ships with poor crews, because of this rule, cannot generate more than five points of EW.

(G21.1122) Ships with poor crews lose one point from any EW they are lent (D6.3144) by another unit. This does not apply to any offensive EW (G24.219) they are receiving. For example, a scout would loan the ship four EW points, but only three would count (even though four were paid for). Because of this rule, a ship with a poor crew could never receive more than five points of ECCM and/or ECM from lending at any given time. The ship with the poor crew decides which point to lose (ECM or ECCM). This loss cannot be changed during the turn.

(G21.1123) Natural EW is not affected by crew status. The "natural" EW from (G21.111) is in addition to this.

(G21.1124) These limits apply to the amount of EW which may be lent by special sensors under (G24.21) and (G24.28) if the crew is on a ship with special sensors.

(G21.113) UIMs on ships with poor crews break down on "1," "2," or "3" (D6.52).

(G21.114) PLASMA: Due to sloppy maintenance, all plasma torpedoes on ships with poor crews are at reduced effectiveness. When calculating warhead strength, add three to the true range. This does not include plasma bolts, which are direct-fire weapons and are treated under (G21.111) .

(G21.115) PROBES: Ships with poor crews can never use probes as weapons (G5.3).

(G21.116) SHOCK: Die roll modifier in (D23.52).

(G21.12) MANEUVER: Ships with poor crews have certain penalties in maneuver. These penalties include:

(G21.121) BREAKDOWN: Normal breakdown rating for an HET is reduced by one (3-6 becomes 2-6) (C6.53). There is no "bonus" (C6.52).

(G21.122) HET: The cost of an HET (C6.2) is increased by 20%.

(G21.123) NIMBLE ships lose all benefits of (C11.33).

(G21.124) TAC: Can only make two tactical warp maneuvers per turn (C5.224).

(G21.125) ESCAPE die rolls are reduced by two (D21.56).

(G21.126) QUICK REVERSE: Subtract one from the die roll for quick reverse (C3.6).

(G21.127) EM: Erratic maneuvers produce three ECM points for the enemy and five ECM points for the ship's own weapons (C10.41).

(G21.128) TERRAIN: Shift the die roll by one in the least favorable direction when rolling for terrain effects including (but not restricted to): (P2.223) Ring Damage, (P2.231) Collisions, (P2.431) Crash Landing, and (P3.223) Asteroid Damage.

(G21.13) SYSTEMS: Ships with poor crews are under certain penalties regarding their systems. These penalties include:

(G21.131) MRS: The ship can never have an MRS (J8.0) or SWACS (J9.0) shuttle .

(G21.132) REPAIR: Add one to the die roll for repair in (D8.31) and (D14.13). The total number of systems that can be repaired is one less than shown in (D9.76), which also affects (G17.1321).

(G21.133) SHUTTLES: The number of shuttles/fighters available is reduced by 25% due to poor maintenance. This cannot reduce the ship to less than one shuttle. Fractions of .5 or .75 are rounded up, 1.5 shuttles becomes two, but 2.25 shuttles is also two. The missing shuttles are on board (in their shuttle boxes, taking up space and available to be destroyed) but in a state of disrepair and non-operational. They cannot be made operational during a scenario; exception (G22.45).

(G21.134) MINES: The ship must be two hexes closer than normal to detect a minefield (M7.1) or individual mines (M7.32). The effective range for detecting mines is two hexes more than the actual range; (M7.54) is not affected.

(G21.135) SCOUT: Add one to scout function die rolls (G24.22) and (G24.25).

(G21.136) TAC INTEL: Collects tactical intelligence at the next worst level (e.g., G becomes F). The ECM disadvantage of (G21.111) is not cumulative with this penalty.

(G21.14) CREW: Ships with poor crews suffer from the following penalties.

(G21.141) MARINES: Add one to the boarding party die rolls in (D7.636) and (D7.8). See (D7.73) for another penalty. When storming a ground base, add one to the die roll in (P2.752). Subtract one in (D7.4) and (D15.3). Note that some of these die roll modifiers have been incorporated (with minor changes) into tables under those rule numbers.

(G21.142) PILOT QUALITY: Subtract one from the die roll when rolling for pilot quality (J6.1) and PF crews (K1.32) for fighters and PFs carried by the ship. Note that admin shuttle pilots are always treated as "good".

(G21.143) DECK CREWS: Number of deck crews on carriers (J4.61) and casual carriers (J4.62) are reduced by 25%. One of the two deck crews provided by (J4.814) is lost.

(G21.144) MUTINY occurs on "1" or "2," which is cumulative with (G6.23), and is put down on only a "1" or "2" in (G6.2). The die roll in (G6.22) is adjusted, in each sub-rule, for one fewer enemy BP [e.g., in (G6.222) every second BP becomes every BP]. The boom is captured on a die roll of one, two, or three in (G6.40).

(G21.15) SCENARIO EVENTS: Adjust the various event die rolls in scenario special rules by one in the least favorable direction. For example, in (SH2.46) a Romulan ship with a poor crew would be released only on a "1." See (S4.23) when rolling for weapons status in scenarios where this is not defined.

(G21.2) OUTSTANDING CREW ADJUSTMENTS

The adjustments for an "outstanding crew" are a bit different from those for a "poor crew:"

(G21.21) COMBAT: Ships with outstanding crews have certain advantages in combat. These include:

(G21.211) DIRECT-FIRE WEAPONS: The ship has three points of ECCM in addition to that from other sources. This is "natural" ECCM not within the lending (D6.3144) and self-generated (D6.3141) limits. If the EW total (before taking the square root) is a negative number after including this modifier, the net EW shift is a -1. Normally, ECM/ECCM cannot produce a negative shift; this is an exception. No shift greater than -1 is possible, but it can be combined with a legendary weapons officer's shift (G22.72). A die roll of less than one is treated as one; do not shift to the next lower column. If electronic warfare is not in use, an Outstanding Crew cannot generate the minus one die roll shift.

(G21.212) EW: Ships with outstanding crews are more efficient when using electronic warfare.

(G21.2121) The first point of energy spent for EW produces two EW points. The owning player can assign these to ECM or ECCM within the rules. The maximum expenditure of six points of power (D6.3141) for EW would produce seven EW points.

(G21.2122) The ship does benefit from all seven points of EW and from the points provided by (G21.211) above simultaneously. The ship could have a total of ten points of ECCM at one time if it has active fire control and six points of power allocated to ECCM. This will exceed the normally allowed limits in (D6.314).

(G21.2123) The ship cannot be loaned additional points beyond what is allowed by the rules (D6.3144).

(G21.2124) If the crew was on a ship with special sensors (G24.0), it could generate seven points of ECM to loan itself under (G24.28) within the limits of this rule. However, they could not generate or loan more than six points per channel to any other unit (G24.21). The seventh point is free if the first six are paid for.

(G21.213) UIM breaks down on "1" only (D6.52).

(G21.214) PLASMA: Due to superb maintenance, the range of a plasma torpedo is reduced by three when calculating warhead strength. This does not include plasma bolts, which are direct-fire weapons and operate under (G21.211) above.

(G21.215) PROBES: Can use probes as weapons (G5.3) at any time.

(G21.216) SHOCK: Die roll modifier in (D23.51).

(G21.22) MANEUVER: Ships with outstanding crews have certain benefits in maneuver, including:

(G21.221) BREAKDOWN: Receive one extra HET bonus under (C6.52). A nimble ship would thus have three HET bonuses.

(G21.222) HET: The cost of an HET (C6.2) is reduced by 20%.

(G21.223) NIMBLE ships do not lose the benefits of (C11.33), even if crippled (S2.4).

(G21.224) TAC: Can make up to six tactical warp maneuvers in each turn, (C5.233).

(G21.225) ESCAPE die rolls are increased by two (D21.56).

(G21.226) QUICK REVERSE: Add one to the die roll for quick reverse (C3.6).

(G21.227) EM: Erratic maneuvers (C10.41) produce five ECM points for enemy and three ECM points for the ship's own weapons.

(G21.228) TERRAIN: Shift the die roll by one in the most favorable direction when rolling for terrain effects including (but not limited to): (P2.223) Ring Damage, (P2.231) Collisions, (P2.4313) Crash Landing, and (P3.223) Asteroid Damage.

(G21.23) SYSTEMS: Ships with outstanding crews have certain benefits regarding their systems. These ships:
(G21.231) MRS: May have an MRS (J8.0) shuttle regardless of ship size or type. MRS (and drone speed if there are any drones) must be paid for.
(G21.232) REPAIR: Subtract one from the die roll for repair in (D8.31) and in (D14.13). The total number of systems that can be repaired is one more than shown in (D9.76), which also affects (G17.1321).
(G21.233) SHUTTLE: Can prepare one spare shuttle during a scenario and will have at least one spare admin shuttle even if the MSC does not list one. This takes four turns. A shuttle must have been lost in combat for this to be done. The preparation begins in the Energy Allocation Phase following the turn in which the shuttle was destroyed or captured. This can be a fighter if the ship is listed as having spare fighters in storage. Only admin shuttles or fighters of the type operated by the ship will be in storage; no other special shuttles will be in storage. This cannot be done if the shuttle bay is overcrowded (J1.64) as a result of damage or the recovery of shuttles that do not belong to the ship. It also cannot be done if all shuttle boxes on the ship are currently destroyed or if there is a boarding action going on in the bay under (D7.6), (J1.63), or (D16.0). If activation is interrupted by any means, it can be resumed (at the point where it left off) on a later turn, provided the shuttle box (which must be recorded) has not been destroyed.
(G21.234) MINES: The effective range for detecting mines is two hexes less than the actual range; (M7.1) and (M7.32). For example, a non-minesweeper with an outstanding crew would detect a minefield under (M7.1) at Range 12; (M7.54) is not affected.
(G21.235) SCOUT: Subtract one from scout function die rolls in (G24.22) and (G24.25) if the outstanding crew is on a ship with special sensors.
(G21.236) TAC INTEL: Collects tactical intelligence at the next better level (e.g., G becomes H, L becomes M). This is not cumulative with EW modifiers.

(G21.24) CREW: Ships with outstanding crews benefit from this status.
(G21.241) MARINES: Subtract one from the boarding party die rolls in (D7.636) and (D7.8). See (D7.73) for another benefit. When storming a ground base, subtract one from the die roll in (P2.752). Add one to the die roll in (D7.4) and (D15.3). Note that some of these die roll modifiers have been incorporated (with minor changes) into tables under those rule numbers.
(G21.242) PILOT QUALITY: Add one to the die roll when rolling for pilot quality (J6.1) and PF crew quality (K1.32) for fighters and PFs carried by the ship. Note that admin shuttle pilots are always treated as "good".
(G21.243) DECK CREWS: Number of deck crews on carriers (J4.61) and casual carriers (J4.62) are increased by 33%. Deck crews provided by (J4.814) are increased from two to three.
(G21.244) MUTINY is put down on a 1-4, which is cumulative with (G6.23). The die roll in (G6.22) is adjusted, in each sub-rule, for one more enemy BP [e.g., in (G6.222) every second BP becomes every third BP]. The boom is only captured on die roll of one in (G6.40).

(G21.25) SCENARIO EVENTS: Adjust all event die rolls in scenarios by "1" in the most favorable direction. For example, in (SH2.46) a Romulan ship with an outstanding crew would be released on a "1-3." See (S4.22) when rolling for weapons status in scenarios where this is not defined.

(G21.3) CAMPAIGN STATUS

Players may wish to keep track of the progress of a given ship as its crew develops into an effective fighting team. This can be done, in a long campaign or perhaps in The Captain's Game (U2.0), by the rules provided in (U7.9).

(G22.0) LEGENDARY OFFICERS *(Optional Rule)*

In a few rare cases, an individual member of a starship crew may be particularly skillful, resourceful, or inspiring. In such cases, he (or she, or for that matter "IT") may improve the performance of the entire ship. These special individuals are "legendary" and, not surprisingly, rare.

NOTE: See (J6.4) for Legendary Ace pilots; also (K1.32) for Legendary PF Crews. These types of Legendary persons have their own special rules and are not covered by (G22.0).

(G22.1) GENERAL CONDITIONS

Legendary officers are all governed by the following general conditions. Unless specified in the scenario rules or agreed to between players, legendary officers are not used in standard games.

(G22.11) AVAILABILITY: The relative number of legendary officers in a given campaign is up to the players.
(G22.111) When beginning a Campaign Game, a Captain's game, or a multi-ship battle, each owning player may roll two dice for each ship in his force (or for some percentage of ships) and use their total to consult the chart below to determine which, if any, of the special individuals are available for that ship. Standard civilian freighters cannot roll for legendary officers.

DIE	OFFICER AVAILABLE
2	Captain, plus roll again for an extra officer. If second die roll is "2," the ship has one of each type of officer. If a "12," treat it as a "6."
3	Weapon's Officer
4	Navigator
5	Ship's Doctor
6,7,8	None
9	Science Officer
10	Marine Major
11	Chief Engineer
12	Captain

(G22.112) Alternatively, players may wish to designate the legendary crewmen available, or they may wish to allocate each side a specified number (say, one of each type).

(G22.12) OTHER CONDITIONS
(G22.121) Each legendary officer can substitute for one crew unit in establishing a "minimum crew" (G9.4). The officer loses all other abilities while serving as a crew unit (he is very busy), but he will regain all of his abilities when he stops acting as a crew unit. See (G22.133) for the location of the officer.
(G22.122) The effects of legendary officers and crew quality are cumulative.
(G22.123) The effects of legendary officers are not cumulative (in die roll modifiers) but are additive in other effects. For example, a legendary captain and legendary science officer, working together, are equivalent to six "lab" boxes when investigating a monster. However, a legendary captain (acting as a weapons officer) and legendary weapons officer could NOT combine to provide a –2 for weapons fire (G22.72). No more than one officer of each type can be operating on a given ship at any one time.
(G22.124) Legendary officers cannot function on a ship with an operating super-intelligent battle computer (G11.27). In such cases only the computer's rules are used unless the computer is shut down. Legendary officers on such a ship do retain their boarding party combat abilities while either defending the ship from enemy boarders or attacking the computer. The one exception is a doctor, who functions normally (in a medical capacity).
(G22.125) A legendary officer must be alive and unharmed in order to use his capability. Capabilities used at a given point (e.g., a die roll modifier, extra ECM) stop at the point that the officer is killed or

wounded. Capabilities that last for the entire turn (e.g., the extra power created by the engineer) continue until the end of the turn. For clarity, these "post-mortem capabilities" are marked † in the rules below. Other than the loss of an officer's abilities, there is no other effect on a ship unless a special scenario rule defines one, e.g., loss of a certain officer demoralizes the crew and they operate as a poor (G21.1) crew from that point. Legendary officers may be killed or wounded; see (G22.134).

(G22.126) Note the rules in (U7.8) and (U1.26) concerning legendary officers in campaign games. Legendary Officers can only function on the ship, or a shuttle of the ship, on which they begin a scenario except as defined in these rules, e.g., a Legendary Weapons Officer, or Legendary Captain acting as a Legendary Weapons officer, could attempt to unlock the weapons of a captured ship (G22.75), but could not apply a die roll modifier to the fire of that weapon. Legendary Ground Forces Officers, Marine Majors, and Doctors are not restricted to operating on their at start ship, and obviously a Legendary Captain acting as a Marine Major could do so other than on his ship, and so on.

(G22.13) SPECIFIED LOCATION: The player must keep track of the location of any legendary officers on his ship because combat damage could result in their becoming casualties.

(G22.131) Legendary officers are designated by the player operating the ship they are on to be in a specific area (defined as a group of connected boxes). A captain, weapons officer, or navigator is normally on the main bridge. The ship's doctor is normally in one of the lab boxes. The science officer is normally in a lab box or a bridge box. The engineer is normally in the engine room (represented by the impulse engine or Aux Con boxes) or on the bridge. The Marine Major is normally in one of the transporter rooms or on the bridge, but could be anywhere. This assignment is made in the Initial Activity Phase.

(G22.132) A legendary officer can move from one area to another. To do this, the officer must spend one turn "moving" to the new location; this is plotted in the Initial Activity Phase (Officer Location Step). During this turn they cannot perform their functions. They cannot move through an area (D16.0) occupied by enemy forces or to a separated section (G12.0) of the ship except by transporter.

(G22.133) Legendary officers can only perform their functions (or substitute for a crew unit) in the locations listed here:

Captain, Weapons Officer, Navigator: Any control box, but will always begin the scenario on the main bridge.

Science Officer: Any control or lab box.

Marine Major, Ground Forces Officer: Any location.

Doctor: Any hull or lab box.

Engineer: Any impulse, APR, AWR, battery or control box. See (D8.32) and (D24.32) for an exception.

NOTES: A captain performing the function of another officer would need to be in place where that officer could perform his function. A legendary captain can function in any box if all control boxes are destroyed, but the ship will still have the (G2.2) penalties.

Security stations do not count as control boxes.

If all boxes of the type that a particular officer is supposed to function from on a ship are destroyed, that officer can perform none of his functions until at least one such box is repaired.

EXCEPTIONS: Officers able to perform repairs may still do so; officers able to act as ground forces officers may conduct boarding party combat.

(G22.134) If the last box of the group of boxes specified as the location of a given officer is destroyed (this destruction could be by any means, including a hit-and-run raid), the legendary officer may have been injured and, if not, must move to a new location before he can function. Roll a single die. A result of "1" indicates that the officer was killed, while a result of "6" indicates that the officer has been disabled. A disabled officer cannot function for the remainder of the scenario unless "cured" by a legendary doctor. He can recover between scenarios of a campaign game.

EXAMPLE: A legendary captain is on the main bridge of his ship. Two "bridge" hits destroy it, and the captain must roll to see if he is injured. The result is a "3" so he is unharmed. He is unable to function for the next turn, however, as he relocates to another control station, in this case the Auxiliary Control Room.

(G22.2) LEGENDARY CAPTAIN

Ship's commanding officers who have risen to the status of legend have several special abilities.

(G22.21) BLUFF: Once per scenario a legendary captain (LC) may attempt to "bluff" his opponent (presumably over sub-space communications). This may be done at the end of any turn during the Final Activity Phase. If the bluff is successful (50% chance), the forces disengage immediately with no points scored or lost by either side for disengagement. If any terrain was in the scenario, the original owner retains possession. In effect, the scenario simply ends at that point.

(G22.211) The chance of success is increased by one percentage point for every BPV point (game balance value) that the captain's forces outnumber their opponents. Conversely, this is reduced 1% for each BPV point that the legendary captain's forces are outnumbered (counting only those units on the board). It can never be higher than 67% or lower than 33%. Percentile dice may be required.

(G22.212) Bases and ground installations can be bluffed (although the only time to do so is if the attacking force is facing destruction and wants to escape). Monsters cannot be bluffed. Computer-controlled ships (G11.0) can be bluffed.

(G22.213) If two captains bluff each other, there is no added effect.

(G22.22) RESOURCEFUL: A legendary captain is resourceful. This is reflected as follows:

(G22.221) He may perform any function with an undamaged ship that other captains may only use after their ships are crippled, for example, using emergency life support (B3.1 #7) or firing a probe as a weapon (G5.3 #5).

(G22.222) If he receives a "you can't destroy this monster" result in an appropriate scenario (SM5.47), he may refuse to accept the result and roll again until he gets a result that lets him kill the monster. If his ship is no longer capable of performing the specific act to destroy the monster (but once was), then the monster cannot be destroyed.

EXAMPLE: If the result is that the monster can be destroyed by an anti-matter bomb in a probe and the ship is out of probes or the probe launcher was destroyed, then the captain cannot destroy the monster. Also note that if the ship fails to hit the monster with a probe the monster will also survive.

(G22.223) If his ship is destroyed, he has a 1% chance (no modifications) of doing something that results in his being aboard and in control of the nearest enemy ship of the same or smaller size class. He may select from any equally-distant qualified ships. [This die roll is specified by (D21.344) and, if successful, replaces catastrophic damage. If it fails, use the remaining procedures in (D21.344).] All legendary officers and remaining crew units arrive with him. (Don't ask how he did it; that's what legends are made of!) To determine 1% (assuming percentile dice are not available), roll two six-sided dice. If the result is "2," then roll a single die. A 1-3 result indicates a 1% chance. Any other result indicates the attempt failed. If the only enemy ship(s) in the scenario are larger, the captain (plus officers and crew) arrive as boarding parties and can fight for control of it.

(G22.23) VERSATILE: A legendary captain is versatile. He may temporarily assume the position of any of the other legendary officers (except the doctor) and perform their special functions. Legendary captains begin all scenarios in "captain mode." He might have functioned in ONE other mode between two consecutive scenarios of a campaign.

(G22.231) Should the captain elect to change jobs, he (or she or it) must spend one turn without performing any special function (of either job) to change jobs. He can move to another location during this turn. He may change jobs as often as he likes, but the turn of inactivity must be spent every time he changes jobs. Exception: (D21.56).

(G22.232) A legendary captain cannot bluff while substituting for another officer. If a legendary captain is performing the job of another officer, he can only use that officer's abilities and cannot use any of the legendary captain abilities (G22.2) until he returns to duty as captain. Exception: (G22.223) may be used.

(G22.24) SELF-DESTRUCTION: Adds one to the chance of successfully self-destructing his ship in (D7.73).

(G22.25) WEAPON STATUS: He improves the die roll by one for purposes of (S4.25); see (S4.22).

(G22.3) LEGENDARY SCIENCE OFFICER

A legendary science officer can perform one of the following functions on each turn: † See (G22.125).

(G22.31) LAB: Operate as three extra lab boxes for gathering information (G4.1)† or identifying seeking weapons (G4.2) when he is in any control box, in a lab, or on a shuttle.

(G22.32) REPAIR: Perform Emergency Damage Repair (D14.25).†

(G22.33) SCOUT: Shift the various die rolls by "1" in the most favorable direction if he is in a lab or control box of the unit using (G24.2).

(G22.34) TAC INTEL: Evaluates enemy ships at the next better level (e.g., D becomes E, L becomes M). This is cumulative with crew quality [(G21.136) or (G21.236)] and prolonged observation (D17.25) but cannot achieve a level better than M.

(G22.35) SHUTTLE: A legendary science officer could pilot a shuttle to gain lab points; see (J2.212).

(G22.36) CLOAKED DECOY: Deactivates a cloaked decoy's self-destruction charge (G27.635) more quickly, but must be in the shuttle bay to do this.

(G22.37) ON BASES: Legendary Science Officers gain capabilities, when serving on large bases.
(G22.371) Legendary Science Officers in any control box or lab of a Battle Station or Starbase can identify up to three seeking weapons (or shuttles) as the final step of the Final Functions Phase (6B11) of the Sequence of Play. This is due to his access to the huge computer systems of these large bases. This is instead of and not in addition to his ability to do this during the Ship Systems Function Stage (6B4) on any given impulse.
(G22.372) Legendary Science Officers on Battle Stations or Star Bases evaluate enemy ships (D17.4) at two levels better than normal, e.g., D becomes F, K becomes M. Note that no level better than M can be achieved.

(G22.4) LEGENDARY CHIEF ENGINEER

A legendary chief engineer has several job functions and can perform one of them on each turn. See also (G22.9).

Note that he cannot repair something that was destroyed on that turn, but must wait for the next turn. † See (G22.125).

(G22.41) REPAIR: He can attempt to repair any destroyed system box on his ship's SSD.
(G22.411) Such an attempt can be made once per turn, at the end of the turn†; this never costs any energy. To determine if the attempt was successful, roll one die. If the die roll result is a "1," the repair was successful. This can be done only during scenarios, and the total number of repaired boxes cannot exceed the original damage control rating; repaired shields do not count against this total.
(G22.412) The engineer must be in a control box to effect these repairs (G22.13).
(G22.413) This can be done while various other repair systems, such as (D9.0), (D14.0), and (G17.0), are functioning, but his efforts are independent of those.
(G22.414) Between scenarios, whether using tactical (G17.132) or operational (G17.133) repairs, the legendary engineer automatically repairs a number of boxes equal to three times the original damage control rating. These repairs are in addition to those done under (G17.132) and (G17.133). There is no reduction for repairs the engineer did during the scenario.
(G22.415) A legendary engineer mitigates shock damage (D23.531).

(G22.42) BONUS: A legendary engineer provides a bonus die roll modifier of "1" when rolling for repairs under (D14.0)† and when not performing those repairs himself under (G22.44) or (G22.41). Note that in this case his efforts are cumulative with (D14.0). He also provides a shift of "1" in the favorable direction for scenario engineering effects such as sabotage (SH1.45) *unless it is specifically noted that he cannot do this in the scenario rules.* A legendary engineer also provides a bonus during Surprise (D18.36).

(G22.43) EXTRA POWER: He can double the power output (without damage or penalty) of any four impulse, warp, or APR boxes on his ship if he is in a control box or a functioning impulse or AWR/APR box†. The doubled boxes can be of one or several types. Orions cannot do this and their unique form of doubling on the same power boxes at the same time. Note that the increased power provided by a legendary engineer does not increase the cost to operate a cloaking device, as to do so would be a penalty.

(G22.44) EMERGENCY REPAIRS: He can perform emergency damage repairs (D14.25)†.

(G22.45) SHUTTLE: He can completely repair the damage to one shuttlecraft (even a two-space shuttle, or a fighter or MRS, but not a SWAC which must be repaired by the procedures in its own rules) in a single turn. He can do this anywhere, including on a planet's surface or drifting in space, and even on a ship with a poor crew (G21.133), but he must be at the shuttle's location (i.e., in the shuttle bay including a destroyed shuttle bay or on the shuttle if in space).† The shuttle must have at least one damage point remaining; even he cannot repair a totally destroyed shuttle. (Reminder: A shuttle in a shuttle box is destroyed with that box by damage to the ship.)

(G22.46) THOLIANS: The Tholians can never have a legendary engineer. Neo-Tholian ships can roll for legendary engineers, but these cannot transfer to non-Neo ships. Tholian X-ships can roll for legendary engineers. Tholian legendary captains cannot function as engineers.

(G22.47) CLOAKED DECOY: Deactivates a cloaked decoy's self-destruction charge (G27.635) more quickly, but must be in the shuttle bay to do this.

(G22.48) SELF-DESTRUCTION: Adds one to the chance of successfully self-destructing his ship in (D7.73), and subtracts one from the chance of an enemy ship successfully self-destructing if he is part of the boarding force (D7.72).

(G22.5) LEGENDARY MAJOR OF MARINES

(G22.50) STATUS: He is a single individual and can transport "free" with a boarding party or as an individual for the same cost as a boarding party. He can reach the transporter room without having to "travel" from his previous location. A Marine Major is simultaneously an LGFO (G22.9). See (D18.18). † See (G22.125).

(G22.51) COMBAT: For all boarding party actions (offensive or defensive), the Major causes die rolls to shift by one in his favor. A Marine Major who accompanies a boarding party on a hit-and-run raid raises a poor boarding party unit to standard or a standard unit to outstanding. See also (D15.45). A legendary major of marines modifies the die roll of one group of up to ten boarding parties, i.e., if he is with eleven boarding parties he can provide his modifier to the group of ten, or the group of one, but not to both.

(G22.52) RANGER: The Major can be transported (alone) onto a shuttlecraft or PF (but not a fighter), in which case he has a small chance of capturing it (D7.6). See the chart below. There are no "shifts" on this chart. Any guards and passengers are also captured. If he captures the shuttle, it is treated as a captured shuttlecraft with a single pilot. If the shuttle was a suicide or scatter-pack shuttle, it is disarmed and the weapons are jettisoned.

DIE ROLL	SHUTTLECRAFT	PF
1	Shuttle Captured	PF Captured
2	Shuttle Captured	Major Killed
3	Major Killed	Major Killed
4	Slightly wounded, returns to ship, returns to duty on the next turn. Shuttle/PF is unaffected.	
5	Seriously wounded, returns to ship, returns to duty in next scenario, could be healed in one turn by a legendary doctor. Shuttle/PF is unaffected.	
6	Roll again at end of the turn or at the end of the next turn. Shuttle/PF is unaffected; the Major is still on board.	

(G22.53) LOYALTY: On a Klingon ship, the Major is either a Klingon or a loyal subject. He is loyal to the ship and, during a mutiny (G6.2), shifts all die rolls by "1" in favor of the ship's officers. Note that a die roll of one will still cause a mutiny.

(G22.54) OTHER DUTIES: A Marine Major can (by himself) guard (D7.83) a system as a boarding party or can serve as a commando (D15.84).

(G22.55) GROUND COMBAT: A Marine Major has a die roll shift of one when assaulting or defending a ground base in (P2.752).

(G22.56) SELF-DESTRUCTION: Adds one to the chance of successfully self-destructing his ship in (D7.73), and subtracts one from the chance of an enemy ship successfully self-destructing if he is part of the boarding force (D7.72). See also (D21.3446).

(G22.6) LEGENDARY SHIP'S DOCTOR

A legendary ship's doctor can perform one of the following functions on each turn: † See (G22.125).

(G22.61) CURE: The doctor can "cure" one "wounded" crew unit (G9.233) or boarding party (return it to duty) at the end of each turn.
(G22.611) He (or she) can also cure "dead" crew units, although this is more correctly interpreted as preventing their deaths from wounds by heroic medical efforts. This requires the "bodies" of the crew unit; a unit which was killed elsewhere cannot be cured unless the doctor goes there or the bodies are brought to the doctor within two turns of their being "killed". The doctor can cure one crew unit per turn (dead or wounded); dead units must be cured within ten turns of being "killed" or they cannot be cured. (As wounded crew units can be cured at any later point, the doctor will of course concentrate on the "dead" ones, but even so, the pace of casualties in heavy combat could outpace even his heroic efforts.) A scenario is extended after its defined end [although the Impulse procedure is not used unless other conditions require it such as (C7.51)] to determine the number of healed crew units. For example, if a scenario is defined as ending on Turn #10, and there is no other activity required after that time, the players can calculate the number of crew units the doctor will cure.
(G22.612) A disabled legendary officer counts as one crew unit for this purpose. The doctor can cure himself from serious injury, but this takes two turns. The doctor cannot save a legendary officer who has been killed.
(G22.613) Note that crew units that are not cured by the doctor within the above defined limits [or (G9.232)] are lost and cannot be cured and returned to duty in later rounds of a campaign.
(G22.614) If the crew units are of different quality (U7.9), the doctor heals a crew unit of "average" quality. If the boarding parties are of different types (Commando versus a normal boarding party), the doctor cures the less expensive one. This reflects the cured units still being injured, not that the doctor saved the five members of a normal boarding party and let the Commandos die. The doctor is not actually curing all the members of one single crew unit or boarding party, but rather returning to duty individuals from many different elements that are formed into new units by their leaders.

(G22.62) LAB: The legendary doctor counts as one lab box to gather information on monsters (G4.1). He can perform no other lab functions in (G4.0).†

(G22.63) BOARDING ACTIONS: A legendary doctor can accompany an attempt to capture a ship and, if not in an area where fighting is going on (D16.0), can cure one wounded or dead (G22.61) boarding party per turn (crew units and militia take two turns). Note that because of his lack of proper facilities he is unable to cure full crew units each turn. He cannot accompany a hit-and-run raid. Casualties from hit-and-run raids (the wounded who were successfully beamed back) are treated under (G22.614).

(G22.7) LEGENDARY WEAPONS OFFICER

The weapons officer has several functions and can perform them simultaneously. These effects are cumulative with crew quality effects (G21.0). He must be in a control box (G22.13) to perform these functions. See also (G22.9). † See (G22.125).

(G22.71) ELECTRONICS: He can improve the ship's sensor, scanner, ECM, or ECCM value by one point. He can only improve one system per turn, but can shift from system to system on consecutive turns. The assignment is made in the Sensor Lock-On Phase. He can hold this ability "in reserve" and apply it during the turn, but it still must be redesignated at the start of the next turn.
(G22.711) If ECM or ECCM is increased, the extra point is not subject to the six point self-generated or received-from-lending limits, it is considered to be "natural" EW (D6.3143). The presence of such an officer does not, however, increase these limits.
(G22.712) His ability to reduce the scanner rating allows him to improve a scanner rating of one (due to damage) to normal 0, or a scanner rating of two to one, and so forth (D6.21). The legendary weapons officer could, possibly, improve the scanner factor to "-1." A "-1" scanner rating means that one is subtracted when calculating the effective range; see (D1.4) and (D6.2). The modifier is not used on targets closer than eight hexes (true range). Note that overloaded weapons cannot be fired at true ranges greater than eight (D6.126). A legendary weapons officer's scanner adjustment factor allows him to fire weapons out to one hex greater than their maximum listed range.

(G22.72) WEAPONS: A legendary weapons officer improves the effectiveness of the ship's weapons.
(G22.721) A legendary weapons officer improves the die roll by "1" for all direct-fire weapons fired by the ship (E1.812). This includes (G16.65). The result of a modified roll less than the minimum possible on the chart for the fired weapon is treated as the minimum possible result.
(G22.722) A legendary weapons officer adjusts the die roll of scouts to break seeking weapons by "1" in his favor (protecting a weapon his ship is guiding, or attacking a weapon if his ship is a scout).
(G22.723) A legendary weapons officer (on a mauler) adjusts the die roll in (G13.344) mauler vs cloaked target by -1.
(G22.724) The legendary weapons officer reduces shock damage (D23.532).
(G22.725) A legendary weapons officer does not modify the die rolls for UIM breakdown or displacement device operation. Note that his EW or scanner modification effect may aid either system.

(G22.73) CLOAKS: A legendary weapons officer subtracts one from the die roll on (G13.37) when firing direct-fire weapons at a cloaked ship.

(G22.74) NON-VIOLENT COMBAT: A legendary weapons officer subtracts one from the die roll to allocate NVC damage (D6.41); an adjusted roll of zero is treated as one. A die roll of six is treated as a six. He has no effect on the die rolls for charts (D6.411) or (D6.412).

(G22.75) CAPTURED SHIPS: If on a captured enemy ship, he can roll a die for one weapon at the end of each turn (he must have been aboard the entire turn)†. A result of one or two means that the weapon has been unlocked and may be fired by the capturing crew. See (D7.55). This applies only on ships which have been completely captured (D7.50); it does not apply to a captured area of a ship undergoing a boarding action.

(G22.76) REPAIR: A legendary weapons officer can repair weapons. See (D14.251).

(G22.77) SELF-DESTRUCTION: A legendary weapons officer adds one to the chance of successfully self-destructing his ship in (D7.73).

(G22.8) LEGENDARY NAVIGATOR

A legendary navigator has several job functions, all of which are performed automatically and simultaneously. These functions can only be performed if he is in a control box (G22.133).

(G22.81) MANEUVER: A legendary navigator improves the maneuverability of the ship.
(G22.811) A legendary navigator improves the ship's Turn Mode category (C3.23) by one level (B to A; but A and AA are not improved).
(G22.812) A legendary navigator:
reduces the chances of asteroid (P3.223) or ring (P2.223) damage by one column;
subtracts one from the die roll for planetary collisions (P2.231);
lowers the cost of EM (C10.18) by 50%; and
improves the chances of the unit escaping an explosion (D21.56).

(G22.82) ENTRY: He can change the hex at which his ship enters a scenario published in the game by up to twenty hexes along the edge of the map. This does not change the starting position if this position is on the map.

(G22.83) WEAPON STATUS: He improves the die roll by one for purposes of (S4.25); see (S4.22).

(G22.84) NEBULA: For purposes of (P6.5), the ship only wanders on Impulse #15, not on Impulses #5 and #26.

(G22.85) LANDING: He can shift the die roll by one in the most favorable direction when crash landing (P2.4313) for each crew unit.

(G22.86) BONUS: He has a +1 bonus for die rolls for breakdown (C6.5) or quick reverses (C3.6), but can only use it once (for either, not each) per scenario. Note that the effect of this modifier is to subtract one from the die roll for an HET or to add one to the die roll for a quick reverse. He can use it for any such maneuver; he does not have to use it for the first one. If it is to be used, it must be declared before the die roll is made. This modifier cannot be used when rolling for tumbling (C6.55).

(G22.9) LEGENDARY GROUND FORCES OFFICERS

Legendary captains, majors, engineers, and weapons officers can participate in combat as legendary ground forces officers (LGFOs). Also, legendary ground forces officers can be created independently. See (D15.45) for ground combat. Also see (D18.18). LGFOs cannot use (D21.3446).

(G22.91) COMMANDO: Actual legendary ground force officers, but not other officers serving in that role, can operate as commandos.
NOTE: Majors can function as commandos in their own right (G22.54), and legendary captains can function as Majors.

(G22.92) GROUND COMBAT: A legendary ground force officer has a die roll shift when assaulting or defending a ground base in (P2.752).

(G23.0) EXPANDING SPHERE GENERATORS

Carried by most Lyran ships (including bases, but not PFs), the Expanding Sphere Generator (ESG) is used to protect the unit from drones and fighters entering the range of the sphere (also known as a field). ESGs are often used to ram enemy ships (or activated in time to allow enemy units to ram the sphere), sweep mines, and harvest fighters like a scythe.

(G23.1) DEFINITION

(G23.11) SSD: Each box on the SSD labeled ESG represents one expanding sphere generator.

Note that the term "ESG" is often used for the generator itself and the sphere or field (the terms are interchangeable) it generates.

(G23.12) MULTIPLE ESGs: Some ships carry more than one ESG. If so, the ESGs function independently of each other.

(G23.121) Multiple ESGs on the same ship may operate at the same time or alternate; they could be at the same or different radii. One could be activated while another was operating [or during its announcement phase (G23.31)]; if two or more were operating, one or more could be shut down.

(G23.122) In the event of multiple ESG fields of different radii, the field which a given object encounters first interacts with it first (G23.51). If two fields are at the same radius, the one that has been active longer interacts first. If they were released at the same time, the owning player decides which will interact first. In any of these cases, the interactions of the first field must be completely resolved (i.e. the field must be reduced to zero or the targets encountered destroyed) before the interactions of the second field are resolved. There is no "gap" between the two ESGs (at the same radius), so if the double-field struck a unit in stasis, this would be resolved just as if the unit was not in stasis. If two twenty-point fields struck an object requiring 35 damage points to destroy, one field would be reduced to zero and the other to five regardless of whether the target was in stasis or not. (Of course, if the target was in stasis it would take no damage.)

(G23.123) The specific ESG generator which is generating each specific ESG field can be detected and must be announced (at the same point the field itself is). Hit and run raids (D7.8) can be directed at the generator of a specific field.

(G23.13) SIZE REQUIRED: Units smaller than size class 4 cannot carry an ESG. This prohibition includes, but is not limited to, fighters, shuttles, PFs, small ground bases, medium ground bases, mines, defense satellites, and seeking weapons.

(G23.14) DESTRUCTION: ESGs are destroyed on "drone" hits. If the box on the SSD representing the ESG is destroyed (or if a ship with an active ESG field is destroyed), the field collapses immediately at the point in the Sequence of Play that it was destroyed.

(G23.2) ENERGY ALLOCATION

(G23.21) ENERGY: Energy is allocated to ESGs during the Energy Allocation Phase. See (G23.223) for fractional points of power.

(G23.211) This energy can come from any source and can be accumulated over any number of turns during a scenario. See (G23.23) for energy in an ESG at the start of a scenario.

(G23.212) Reserve power (H7.2) can be added to the ESG generator (or capacitor); it cannot be added to an active ESG field to increase or restore its strength or to extend its active period.

(G23.22) POWER STORAGE: The more energy held in an ESG (up to a maximum of five points), the more powerful the field will be when the energy is released.

(G23.221) Energy may be stored in the ESGs for up to 25 turns. If not used within this period, which does not count any turns before the scenarios begins, the power is lost.

(G23.222) When a given generator is activated, all of the energy in it must be released; exception: (G23.242).

(G23.223) Fractional points of energy can be stored in an ESG, but an ESG can only use whole units of power. If the ESG has a capacitor, the unusable fractional points remain in the capacitor. If there is no capacitor, the fractional points are lost when the ESG is activated (as "all power" in an ESG without a capacitor must be used).

(G23.23) INITIAL ENERGY: A ship entering a scenario can have an amount of energy stored in each ESG depending on the weapons status of the ship, as follows:

WEAPONS STATUS		ENERGY STORED
0 or I	=	No energy stored
II	=	2 points per ESG
III	=	5 points per ESG

This amount does not increase after capacitors are installed.

(G23.24) CAPACITORS: In Y167 the Lyrans developed a capacitor system for their ships. This was installed in the ships of the various fleets before they were committed to action: Red Claw Duchy in Y167, Foremost/Homeworld before the attack on the Kzintis in Y168, Far Stars Duchy by the start of Y169, and Enemy's Blood before the Hydran attack in the fall of Y169. This technology was sold to the LDR in Y169 to purchase their continued neutrality in the opening stages of the Hydran assault on Lyran space. Orion Pirates were known to have acquired the technology by Y170, and they provided it to the WYN Cluster that same year.

(G23.241) Each ESG is fitted with a capacitor. The capacitor for a given ESG cannot transfer power to a different ESG. The capacitor is destroyed with the ESG.

(G23.242) The capacitor can hold up to seven points of energy and can release one-to-five points of energy at a time. Any unreleased energy remains in the capacitor. It cannot release more than five or any fraction, but can release any whole amount up to five at the owning player's option. Energy can only be released from the capacitor when the ESG is activated (G23.43). The amount of energy in the capacitor at the start of a scenario is dictated by the weapon status (S4.0) and the table in (G23.23). The capacitor is part of the ESG; players allocate power to the capacitor, not to the ESG *and* to the capacitor.

(G23.243) Energy can be added to the capacitor by allocation at the start of any turn or by reserve power on any impulse, even if the ESG is operating. Energy cannot be stored in an active ESG unless it has a capacitor. Energy added to the capacitor of an operating ESG generator (one that currently has an active field up) does not in any way affect the operating field. Such energy cannot be used by that generator until the next legal time it is activated.

(G23.244) If an ESG is destroyed or damaged and then later repaired, the capacitor is repaired with the ESG but has no power in it when repairs are complete. An ESG can be repaired without a capacitor (G17.5).

(G23.245) The BPV of Lyran ships assumes the presence of the capacitors on all ESGs. If the scenario is set before the capacitors were installed, reduce the BPV by one point per ESG. A ship will have capacitors on all of its ESGs or on none of them, with the exception of hastily repaired ESGs (G17.5).

(G23.3) ACTIVATION OF AN ESG

(G23.31) ANNOUNCEMENT: The energy stored in an ESG can be released on any impulse, but the intention to release one must be announced four impulses (1/8 turn) in advance during the Seeking Weapons Stage (6B6) of the Impulse Activity Segment. See (G23.46). Deactivation of ESGs precedes activation in the Impulse Procedure.

(G23.311) The energy and radius are not announced until released, but must be recorded at the time of announcement and are revealed at the time of release (G23.46). The player must reveal the number of generators he plans to release when the four-impulse notice is given. See (G23.312) for a partial exception.

(G23.312) An ESG cannot be released without the required prior announcement, even at the start of a turn. If release at the start of a turn is desired, the owning player would have to announce the release during the previous turn (without knowing if he will have sufficient energy available, in which case the announcement could be cancelled) or announce the release at the start of the turn and delay it the required four impulses. If an announcement is made in the last four impulses of the turn (for a release during the first four impulses of the next turn), the strength and radius need not be decided or recorded until the Energy Allocation Phase.

(G23.3121) If ESG activation is announced at the end of a turn, no energy is allocated during the subsequent Energy Allocation Phase, and the ESG activation is not cancelled, the ESG will either activate with whatever energy is available in its capacitor (assuming enough to create an ESG field), or will be treated as having activated but not created an ESG field. In this second case, the ESG will be considered to have released and dropped on the same impulse for purposes of determining when it can next be activated (G23.323). Note that the activation with whatever energy was in the capacitor is involuntary, if activation was announced and not cancelled, the field will activate with the available energy up to five points.

(G23.3122) The ESG unit cannot attempt to complete such an activation with reserve or battery power during that turn if sufficient power to raise the field was not allocated during energy allocation.

(G23.313) No prior announcement period is required to drop an active ESG, but it cannot be voluntarily dropped (G23.47), except in the Seeking Weapons Stage of the Impulse Activity Segment. The fact that it has been dropped must be announced at that point. Note that some conditions [e.g. breakdown (C6.545), adoption of Erratic Maneuvers (C10.52), energy balance (D22.0), etc.] may cause the field to be dropped involuntarily, and in all such cases the field is dropped (and that fact is announced) when the causal condition takes effect.

(G23.314) A ship that is using Erratic Maneuvers cannot have an active ESG field (C10.52). The field can be announced while under EM, but the ship must cease EM before the field is released or the field is voided and the power is lost.

(G23.32) CYCLE OF AN ESG FIELD: An ESG field will only remain active for 32 impulses and will automatically deactivate itself during the Seeking Weapons Stage of the 32nd subsequent impulse. Written records of the impulse any given field was released and dropped must be kept. The fact that the ESG has reached the end of its active cycle is detectable to all players; no formal notice is required although players may confirm the records.

(G23.321) A field can be voluntarily deactivated in fewer impulses (G23.47). See (G23.313) for the required announcement.

(G23.322) A field reduced to zero strength is considered to have been dropped at the point when the last strength point was expended (G23.51).

(G23.323) A field cannot be reactivated within 32 impulses of when it was dropped nor can it be reactivated before the start of the second subsequent turn from the point it was activated. This delay is to the next activation, not to the next announcement. For example, an ESG activated on Impulse #10 of Turn #2 (announced on Impulse #6) and dropped before the end of Turn #2 cannot be activated again before Impulse #1 of Turn #4 (announced Impulse #29 of Turn #3); if dropped during Turn #3, it could be activated 32 impulses later.

(G23.33) CANCELLATION OF ANNOUNCEMENT: A player can announce an intention to release an ESG field and later (publicly) cancel that announcement (before the impulse when the field was to have been released) in the ESG Step of the Seeking Weapons Stage (6B6). If such an announcement is cancelled, however, another announcement cannot be made within 1/4 turn (eight impulses) of the cancellation. Since the ESG is not released when its announcement is cancelled, the penalties of (G23.32) do not apply, only the delay imposed by this rule applies. Such a cancellation could be used to avoid the penalties of (G23.314).

(G23.4) OPERATIONS

(G23.41) RADIUS: When formed, the expanding sphere field may be set at a radius of zero, one, two, or three as prescribed by the owning player's records (G23.311). The larger the sphere, the weaker it is.

(G23.42) STRENGTH: To determine the field strength, take the radius and use it to find the Strength Factor on the following chart:

Radius	Strength Factor	Energy Points Contained				
		1	2	3	4	5
0	4.00	4	8	12	16	20
1	3.67	4	7	11	15	18
2	3.33	3	7	10	13	17
3	3.00	3	6	9	12	15

Multiply this strength factor by the number of energy points held in the ESG when released. Round fractions of 0.50 and more up and those of 0.49 and less down. This final result is the strength of the field and is shown in the columns to the right of the Strength Factor (i.e. the calculations have been done for you, but the procedure is shown to improve understanding of the system). For example, radius two, strength factor 3.33, two energy points yields a seven-point field.

(G23.43) TIME OF RELEASE: The energy used is not announced until the time of release. When released, an ESG does not interact with or damage anything at the instant of release; see (G23.56).

(G23.44) FORMING: When released, the sphere (field) forms at the specified radius. It does not expand to that radius damaging units at shorter distances.

(G23.45) MOVES WITH SHIP: The sphere moves with the ship; it does not remain stationary. If the ship is displaced, the ESG field is displaced with it and is treated under (G18.65).

(G23.46) KNOWN INFORMATION: The size and strength of the sphere can be detected and must be announced. If tactical intelligence (D17.0) is used, this information can be detected at Level B.

(G23.47) VOLUNTARY DEACTIVATION: The owning player can voluntarily deactivate (drop) an operating ESG field in the ESG Step of the Seeking Weapons Stage (6B6) of the Impulse Activity Segment (G23.321), and doing so establishes the point at which it can be reactivated (G23.323). If voluntarily deactivated, the ESG field ceases to function immediately at that point. An active ESG can be deactivated but cannot be voluntarily reduced in strength. See (G23.313) for required announcements.

(G23.48) WILD WEASELS are voided if the launching ship uses an ESG; see (J3.46).

(G23.5) COMBAT EFFECT

(G23.51) DAMAGE: When operating, the field will automatically score damage points on any ship, base, shuttle, fighter, PF, monster (with some exceptions), mine, escape pod, defense satellite, drone, or other object specified in the rules entering the field. A unit can enter an ESG field as a result of the unit's own movement, the movement of the ship generating the field (G23.45), or both. See (G23.6) for some other effects.

(G23.511) The field will score damage points up to the number required to destroy the object, or up to the strength of the field, whichever is lower. Each damage point scored reduces the strength of the field by one point.

EXAMPLE: The field strength is five. If a drone that is destroyed by four damage points contacts the field, the field strength will be reduced to one point and the drone will be destroyed. If a drone that is destroyed by eight damage points contacted the five-point field, the field would be reduced to zero (thereby deactivating it) and the drone would receive five of the eight damage points required to destroy it.

(G23.512) The damage caused by the ESG fields is scored at the designated point during the Movement Segment as a separate volley. Two or more ESG fields at the same radius or different radii generated by the same ship count as a single volley (G23.75). If ESG fields generated by different ships strike a single object in the same impulse, they are counted as separate volleys, although it would take VERY arcane circumstances for this to happen because of the priorities of (G23.52). Players are welcome to try and determine just what these circumstances are.

(G23.513) ESGs do not negate shields or armor. Damage from an ESG is scored on the target's shield which is facing the ship generating that ESG. This is judged by the same procedures as direct-fire weapons (D3.4). If the ESG ship and the other ship move on the same impulse, judge the situation by whichever ship moved first. If both move at exactly the same time [all tie-breakers in (C1.313) being exhausted], the ESG interaction is judged as if the other ship had moved first.

(G23.5131) Exception: If the "other" ship is inside the ESG and moving out of it (or the ESG is dragged over it), the shield struck would be the one opposite the one facing the ship generating the ESG.

(G23.5132) Exception: If the units are tractored, and the line of fire is on a shield boundary, damage from an ESG is scored on the target's shield which is facing the ship generating the ESG. See (G23.513) when the line of fire is along a hex spine.

(G23.514) ESG impact is determined during movement but resolved after Tactical Maneuvers, allowing a ship (qualified to Tactical Maneuvers to turn a different shield toward the oncoming ESG after knowing that the ship will be hit. This means the Tactical Maneuvering ship can choose which of three facing shields the ESG field will impact by tacing the desired shield into place after ESG generating ship has moved.

(G23.515) ESGs cannot damage units on planets or large asteroids (P3.4), including units which have landed or docked to these items during a scenario. There is an exception in that large asteroids or meteors [See (SH3.0)] that are not part of an asteroid field (G23.651) can be individually damaged by an ESG, and the destruction of such an individual asteroid or meteor would destroy any unit on its surface which failed to escape (D21.0). See (G23.653).

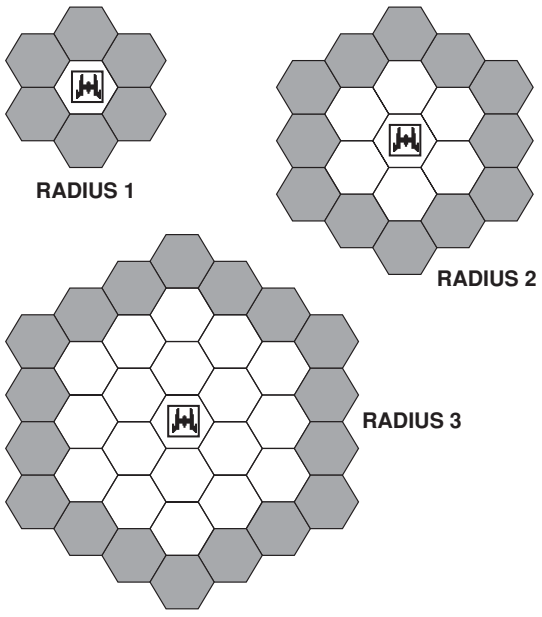
(G23.52) MULTIPLE TARGETS: If two or more objects enter the field simultaneously, damage is caused to (and by) the ESG field in the following priority:

1. Units which move completely through (G23.571) the field (unless both are generating an ESG, in which case priority two is resolved first). (Example: The field is in hex 0404, the generating ship in 0401, and a drone targeted on the ship in 0405. Both the ship and the drone move in this impulse, so the drone would move to 0404 and the field to 0405, effectively passing each other, although since either the drone or the field will not survive the encounter, this is only a temporary convenience to keep track of the counter locations.) If there are several such units, these are damaged in the order given in steps 2-5 below.
2. Other ESG fields (G23.73).
3. Asteroids and other solid objects (G23.65). Each hex of a multi-hex planet is resolved separately.
4. Active explosive mines (G23.61).
5. Other units [including inactive and non-explosive mines (M5.28)] in order of size from the smallest to the largest, with each such unit receiving one point in turn. The field will score one point on each (beginning with the smallest in terms of size class; within size classes use movement cost or other size indicators, such as heavy shuttles and two-space drones; roll a die to resolve ties) and will repeat this procedure until field strength is reduced to zero or all objects are destroyed.

   EXAMPLE: A drone, a shuttle, and a ship all strike an ESG with a strength of five at the same time. Two points would damage the drone, two the shuttle, and one the ship based on their size. Within the above priorities ESG damage is divided equally (until a given unit is destroyed or the ESG has no points remaining) among all units affected by that priority, and if the ESG has any points remaining they are applied to the next priority until no points, or no units, remain.

(G23.53) DAMAGE ANY TARGET: The field will damage any qualified target, including other Lyran ships, and even shuttles or seeking weapons launched by the ship generating the sphere.

(G23.54) HOLLOW: Note in the illustrations below that the sphere is hollow and will not damage targets inside of its lethal radius. For play purposes, the ESG field consists of the entire hexes at the specified radius, not the inner or outer edges of such hexes. For partial exceptions to this rule, see (G23.562), (G23.573), (G23.72), and (G23.842). Thus, a ship wishing to launch a shuttle could generate a field of Radius 3 on one turn, launch a shuttle and move it two hexes away from the ship, then generate a field of radius-1 with a different generator on a later impulse.



(G23.55) RADIUS ZERO: If the sphere is set at a radius of "0" and drones targeted on a unit inside the field enter that hex, they will strike the field before they strike their target. See also (G23.72).

(G23.56) TIME OF FORMATION: If the ship generating the ESG does not have one active, but generates a sphere at a specified radius, any objects at that radius are not damaged.

(G23.561) In this way, the sphere operates as mines and asteroids do. Merely being in a sphere hex cannot result in damage; only entering such a hex can cause damage. Moving parallel to and at the same speed as the generating ship is still considered to be movement for purposes of ESGs and results in damage; see (G23.573).

(G23.562) At the time of formation, all units in the same hex as a forming ESG are considered to be "outside" the ESG for purposes of moving toward or away from the generating ship. If such units move toward the generating ship (or vice versa), they are treated as "jumping" (G23.571) the ESG. [Note specifically that a shuttle outside of, but in the same hex as, a radius zero ESG field that announces it is crashing aboard (J1.65) will still impact the ESG even though landing is not done during the Movement Segment (6A)]. If they move away from the generating ship (or vice versa), they take no damage. If they move into another hex of the same ESG field, they take damage as per (G23.561), note that an ESG hex might slide into a non-ESG unit and this is resolved in the manner as if the non-ESG unit slid into the ESG hex. There is a partial exception in (G23.72).

(G23.563) Units that appear in ESG hexes by displacement (G18.65) or transporter (G19.4), to include T-bombs (M3.22), are not damaged as a result and are considered to be outside the ESG for purposes of moving toward or away from the generating ship under the procedures of (G23.562). If the ESG were to contact such a T-bomb on subsequent movement before it has armed [(M3.223) and (M3.32)] the ESG will only be reduced by the four points of damage needed to destroy an inactive small mine.

(G23.564) Units outside of a Radius Zero ESG field that attempt to "land aboard" the generating ship, or any other ship within that Radius Zero ESG field interact with the field at that point, the Shuttle and PF Functions Stage (6B8) in the sequence of play. They are damaged or destroyed and reduce (possibly drop) the ESG field. This also applies to units attempting to dock in the Final Activity Phase (7) that are outside of the Radius Zero ESG field.

(G23.57) MOVEMENT OF GENERATING SHIP: Movement of the ship (that is generating the ESG) in such a way as to cause the ESG field to contact another unit has the same effect as the movement of that unit (i.e., the unit is damaged).

(G23.571) Note that it is possible for the target unit and the ship generating the ESG to move (toward each other) on the same impulse. In this case, the damage is still resolved normally (the target cannot "jump" across the field unharmed), but the Sequence of Play must be interrupted. Use (C1.313) to determine which ship moves first, move that ship, determine the ESG damage (including all units damaged) immediately (resolving it at the appropriate point), then move the other ship and continue the normal Sequence of Play.

EXAMPLE: A Lyran CA is in hex 1010 facing A and projecting an ESG into hex 1007 (among others), while a Hydran FF is in 1006 facing D. Both ships are scheduled to moved straight ahead, resulting in the Hydran FF being in 1007, the Lyran CA in 1009, and the ESG in 1006. It could be argued that the FF and ESG "passed" and there was no contact, but this is obviously illogical and the situation is resolved by the above rule. The same situation can occur when the ships are moving apart, i.e., when the non-ESG ship is also inside the ESG field, in which case it is resolved the same way.

(G23.572) Note also that, if the ESG ship is moving in the same impulse as its target, but is moved first in that impulse by (C1.313), and the subsequent (but same impulse) movement of the target again moves the ship clear of the field (but not across it), no contact with the field actually took place.

EXAMPLE: In the above case, had the Hydran FF been moving in direction A, the CA would have moved first by (C1.313) and would have moved its ESG into 1006, but the FF moves to 1005, avoiding it, even though the apparent non-simultaneity of the actual movement of the counters would seem to indicate otherwise.

(G23.573) If the generating ship and a potential target which is in an ESG hex are moving parallel and at the same time, the potential target does take damage as if it had entered an ESG hex. This rule also covers one ship moving toward, and the other moving parallel, which is basically the same thing as (G23.562) (the non-ESG unit is hit by, or hits, the ESG if it is still in a hex of the same ESG). If both ships are moving move one of them and resolve the shield impact (unless the second move would mean no impact).

(G23.5731) This is true even if the two units are linked by tractor beam from the generating ship, unless the ship generating the ESG and tractor voluntarily decides to treat the matter under (G23.5732).

(G23.5732) If they are linked by a tractor beam from the potential target, the potential target is using the beam to avoid contact with the field itself and does not take damage, unless the potential target (generating the tractor) voluntarily decides to treat the matter under (G23.5731).

(G23.5733) If both ships are generating a tractor beam, each makes its own decision as to which of the two above cases will be used (made secretly, announced simultaneously). If there is disagreement, the potential target makes the decision.

(G23.5734) Note that a larger ship could rotate a smaller unit into its field, and a smaller ship could rotate itself to effectively move its field into contact in the Tractor Rotation Step (G7.7) of a turn, assuming they had maintained tractor links. The damage would not be resolved until the ESG Step of the Damage During Movement Stage of the Movement Segment of the first impulse of that turn.

(G23.574) Turns (without changing hexes) by the generating ship do not result in damage to units in ESG hexes. Turns (without changing hexes) by units in ESG hexes do not result in damage to those units. (The ESG field itself does not "rotate" as the ship turns, so it cannot damage enemy units in ESG hexes like a "disk sander.")

(G23.575) Note that in cases of Zero Radius ESGs if both ships are scheduled to move, and their combined movement results in an ESG interaction, this is treated under the above rules.

EXAMPLE: A ship in 0303 heading D is moving on the same impulse as a ship in hex 0304 heading A. If their movement results in their exchanging hexes, it should be obvious that the non-ESG ship cannot have missed the ESG field. However, if the ESG ship moved first entering hex 0303, and the non-ESG ship then sideslips into hexes 0203 or 0403, or HETs and enters either hex 0302, 0202, or 0402, no interaction occurs (G23.572).

(G23.6) OTHER EFFECTS OF AN ESG FIELD

(G23.61) MINES: The sphere will automatically detonate active explosive mines when it touches them [i.e. when it attempts to score damage points on the mine(s) on step #4 of (G23.52)]. The strength of the mine will be applied to the sphere. Any remaining strength will be applied to the facing shield of the ship whose sphere detonated the mine, regardless of the radius of the sphere; exception: (G23.615). The mine explosion is completely absorbed by the ESG field; the explosion does not damage any other units. Note that a chain mine with a disabled detonator would trigger immediately when the ESG detonated the mine controlling it.

EXAMPLE: A fifteen-point ESG field strikes an active ten-point mine (T-bomb). The mine is detonated before receiving any damage. Its ten-point explosion reduces the field to a strength of five points.

(G23.611) The ESG field will detonate all active explosive mines that it touches, even if only a portion would be sufficient to destroy the field. The ESGs of a ship could strike and detonate several mines in the same impulse.

(G23.6111) If the ESG field is strong enough to absorb the damage of all detonated mines, this is done, the field is reduced appropriately, and play proceeds.

(G23.6112) If the ESG field is not strong enough to absorb the damage of all detonated mines, the field absorbs one point from each mine (in order from the smallest to the largest, with the mines in each category resolved in an order selected by a random die roll); this is repeated until the field is reduced to zero strength. Each mine then damages the facing shield. Any internal damage is combined into a single volley; this is a partial exception to (M2.502) and uses the (E10.43) procedure for phaser directional damage (D4.321).

(G23.612) If the ESG strikes a mine that is any of the following:
pre-active (M5.1132)
not explosive
a command-controlled or chain mine with a disabled detonator (M5.1134)
the interaction is resolved in step #5 (G23.52) but the mine cannot be detonated. (It would be detected on contact, but only if damage points were actually scored on it.) Mines waiting a command to explode (deadmen or controlled explosive mines with enabled detonators) are considered active for this purpose. Mines that are not active (i.e., inactive) will detonate (M5.1133).

(G23.6121) If the field scores enough damage on the mine to destroy it (M8.41), the mine is destroyed without exploding and the ESG is reduced by the number of damage points expended for that purpose.

(G23.6122) If the field does not score enough damage on the mine to destroy it before the field is reduced to zero strength, the damaged mine is left in place and play continues.

(G23.613) Captor and sensor mines are damaged or destroyed by the ESG field as any other object would be, but if destroyed, they do not explode or fire. This includes both active and inactive mines. (This explains why captor mines are usually protected by explosive mines.) If a captor or sensor mine survives the impact, it will (at the appropriate point in the Sequence of Play) trigger (i.e. fire at the ship, order other mines to fire, etc.); see (M8.42).

(G23.614) If the ship has multiple ESGs up at the same radius, these are combined into a single ESG for this purpose. If the ESGs are at different radii, the other ESGs are ignored for purposes of the exploding mine(s) and the damage is conducted directly to the ship as above.

(G23.615) If the exploding mine is in an ESG hex which is on the border between two shields, use the procedure in (G23.513). All of the damage from a single mine must strike a single shield.

(G23.616) Mines will not accept an ESG field within their detection zone (M2.35) as a target. *Only* the impact of the ESG field on the mine (i.e. the ESG field entering the mine's own hex) will cause detonation. It is possible, if the field radius is zero, for the mine to detonate due to the movement of the ship rather than due to impact with the ESG field. In this case, the ESG is ignored and the mine operates normally, just as would be the case if a mine in a hex adjacent to an ESG field was detonated by some other target.

(G23.617) Dummy mines operate under (M2.913), and will cause this reduction if laid out of a mine rack (whether on a ship, PFM, MLS or other unit with a mine rack) or shuttle bay during a scenario. Dummy T-bombs deployed by transporter will reduce an ESG by one point (M3.224), but if not activated by being transported will not affect an ESG, i.e., a dummy T-bomb dropped out of a hatch is inert material and does not interact with the ESG.

(G23.62) CLOAKS: Cloaking devices and ESGs have significant interactions. See (G13.57).

(G23.621) Cloaked ships are affected by the sphere as if they were not cloaked. If a cloaked ship is damaged by an ESG, it can be locked-onto during the impulse the damage is taken, but you must then roll to retain lock-on during the lock-on stage (6B3) of the same impulse.

(G23.622) A cloaked ship cannot operate an ESG while the cloaking device is operating, or until fade-in is complete, or after fade-out begins. If the ship is cloaked (or fading), it cannot activate an ESG, i.e. begin the activation phase by announcing activation, until fade-in is complete. If a ship with an active ESG starts to cloak, the ESG must be dropped before the cloaking device can be activated. This can be done at the time that the cloak is activated, outside the normal Sequence of Play.

(G23.63) EXPLOSIONS: Self-destruction (explosion) blast effects ignore ESGs. Mine explosions not caused by a specific ESG (G23.616) ignore the effects of that specific ESG (i.e. they do not damage the field and are not transmitted to the ship generating the field).

(G23.64) TRANSPORTERS: Transporters (G8.0) can operate through ESG fields.

(G23.65) TERRAIN generally overwhelms an ESG and causes it to collapse.

(G23.651) ASTEROIDS: An ESG field striking asteroids in a field or belt takes two points of damage for each hex of asteroids that hits the field, regardless of speed. See (G23.653) in the case of individual asteroids outside of fields or belts.

(G23.6511) Such damage has priority (G23.52) over some other damage to or by an ESG, but asteroid damage is not carried over to the ship (a'la mines) if the ESG is deactivated by asteroid damage.

(G23.6512) This does not, however, damage or clear a path through the asteroids for the ship (P3.255). The ship rolls normally for asteroid damage if the ship moves through an asteroid hex irrespective of the radius of the sphere or the number of hexes of asteroids the sphere hit. The ship's die roll does not reduce asteroid damage to the sphere, and the sphere is not protected by any weapons fired by the ship to clear a path (P3.25).

(G23.6513) Following another unit through the asteroid field (P3.23) will also not reduce asteroid damage to the sphere.

(G23.6514) Ring material (P2.223) operates as do asteroids but causes only one point of damage per hex.

(G23.652) ATMOSPHERE: An ESG cannot be generated into or through a hex containing an atmosphere (P2.546). Units can use a zero-radius ESG (around themselves only) while in an atmosphere hex. (Anything they subsequently launch would also be inside the field until it moved to another hex.) See (P2.735) for ground bases. ESG fields formed at a radius of greater than zero which strike atmosphere hexes are immediately deactivated without damaging any other units. An ESG can never be formed with a planet or moon inside of it. Any field activated in an illegal position would collapse immediately, and the energy would be lost.

(G23.653) PLANETS: Should an ESG field strike a planet or moon without an atmosphere, the field is reduced to zero and no damage is caused to the planet or to installations on it (the effect is spread over too wide an area). ESG strikes will accumulate damage towards the destruction of individual large asteroids (P3.4) or meteors that are not part of a larger cluster as in scenario (SH3.0) and under the provisions of rule (P2.312). In such cases, the overall effect is still too gross to affect units on the surface of such a body, but the destruction of the large asteroid or meteor will destroy any units on it that fail to escape under (D21.0). See (G23.515) and (G23.651).

(G23.654) DUST CLOUDS (P13.1) damage an ESG. During impulses where a ship of the relevant speed takes damage, the ESG will take damage according to the table below:

Radius 3	7 points of damage
Radius 2	5 points of damage
Radius 1	3 points of damage
Radius 0	1 point of damage

If the damage exceeds the strength of the ESG, reduce the field to zero and ignore any other damage. The ESG does not protect the ship itself from dust damage. In the event that the generating ship is operating near the edge of the field, score one point of damage for each ESG hex which enters a dust hex up to the maximums above.

(G23.655) OTHER: ESGs are affected by black holes (P4.26) and will not operate in a nebula (P6.6).

(G23.66) TRACTORS: Tractors (G7.0) can operate through ESG fields. See also (G23.573).

(G23.7) CONDITIONS AND RESTRICTIONS

(G23.71) MULTIPLE ESG OVERLAP: The spheres created by ESGs on two different ships cannot overlap [this would result in damage under (G23.73)] or be contained within each other.
(G23.711) It is the release of an ESG, not its announcement, which causes this interaction. However, as deactivation precedes activation in the Sequence of Play (G23.31), with careful timing two ESG-equipped ships could keep a continuous screen of ESGs around themselves, barring a field being deactivated by damage before a second field can become active.
(G23.712) If two ESGs are activated in violation of (G23.71), whichever ESG was activated second would collapse, the sphere never forming and the energy being lost. If two ships both activated ESG fields simultaneously, both/all of the fields would fail and the power would be lost. This means that if Ship A had two ESG fields and activated both of them, and Ship B had two ESG fields and activated one simultaneously, and the fields overlapped, all three would fail. However Ship B would then be able to raise its second ESG field normally.
(G23.713) Two ships or more in the same hex could not use ESGs simultaneously. If the fields were at different radii, the above rule would apply; if they were at the same radii, they would immediately damage each other (G23.73). They would damage each other even at zero radius (G23.73).
(G23.714) In the case of docked units, see (C13.7612).

(G23.72) ZERO-RADIUS: When creating a zero-radius field, the Lyran player designates which friendly units are inside of it. All other units are considered to be outside of the field. Items outside of the field are not damaged when the ESG-generating ship leaves the hex, or when those objects themselves leave the hex.
(G23.721) Other units entering that ship's hex will strike the field; units inside the field which leave that ship's hex will also strike the field (from the inside).
(G23.722) If there are two fields of zero radius generated by the same ship, both are identical in regards to units inside and outside of the field.
(G23.723) Units inside the field are not affected as per (G23.573); units outside the field are affected by (G23.573).

(G23.73) ESG vs ESG: Two ESG fields (generated by different ships) that strike each other (occupy the same hex) will damage each other (G23.52). Two ships operating zero-radius ESGs in the same hex will interact and the ESGs will damage each other, even if both sides designated (G23.72) that the other was outside of their field.

(G23.74) DOCKING: For ESGs generated by a ship docked to a base, see (C13.7612). For ESGs striking a base with a ship docked to it, see (C13.722). For ESGs striking two ships docked to each other, see (C13.944). For ESGs generated by a ship docked to another ship, see (C13.964).

(G23.75) DOUBLE RAM: It is theoretically possible that, if a ship had two ESGs active at different radii, a single target (on a closing course) could strike both of them, the first as a "jumper" in step #1 and the second under step #5 of (G23.52). In this case, the two "volleys" of damage are combined into a single volley.

(G23.8) EFFECT ON OTHER WEAPONS

(G23.81) PLASMA WEAPONS: The sphere has no effect on plasma torpedoes (of any size including D), pseudo-plasma torpedoes, or plasmatic pulsar devices.

(G23.82) ANTI-DRONES: An ADD cannot fire through an ESG field and cannot damage an ESG field (E5.32).

(G23.83) DIRECT-FIRE WEAPONS: The ESG sphere does not affect direct-fire weapons.
Exceptions: hellbores (E10.714)
ADDs (G23.82)
Web Casters (E12.531) including snares

(G23.84) HELLBORES: The hellbore-ESG interaction is one of the most violent in the game system. Hydrans complain that the ESG acts as a shield against hellbores (E10.35). Lyrans complain that the ESG acts as a magnet to attract hellbore damage and bring it home to the ship. They are both right.
(G23.841) If a hellbore is fired at an ESG field (from outside), a hit (on the field) is automatic. Note that this includes hellbores fired at the generating ship and those fired at another target (or into an empty hex) but where the line of fire (to the original target) crosses the sphere/field. The strength of the ESG field is reduced by the strength of the hellbore at the point of impact on the sphere itself; the remaining power (if any) of the hellbore is automatically applied, without further reduction, to the ship generating the ESG field [by the normal procedure (E10.4)] even if that ship was not the original target. If there is a second sphere inside the first, the process is repeated. (A hellbore ship can, in effect, damage a target outside of the arcs of its weapons IF those hellbores could fire on any ESG hex generated by the target.) See also (G23.845).
(G23.842) Since an ESG does not completely fill the hex, a line of fire along the edge of an ESG hex (but not one between two adjacent ESG hexes from the same field) does not hit the ESG.
(G23.843) If fired from inside an ESG field at a target also inside the ESG field, the hellbore does not strike the ESG field. If fired from inside an ESG field at a target outside the ESG field (or into an empty hex simply to hit the field), the hellbore strikes the field (reducing it) and any remaining damage is diverted by the field to the ship generating the field. In the event that a non-overloaded hellbore (which cannot fire at a range of zero) which is legally fired at a target (even a "speck of space debris") more than that range, intersects an ESG at Range Zero, treat this as having hit the ESG at a range of one. There is no feedback from a non-overloaded hellbore in this situation.

Theoretically, an Orion or WYN ship with a terrible choice of option mounts (and gunnery officers) could fire a hellbore at something outside of the sphere while its own ESG was active and, in effect, strike itself. This would not violate (D1.56), but would violate common sense.
(G23.844) If two or more hellbores are fired at a given ship during a given fire step, they are resolved one at a time (i.e. sequentially, even if fired as a narrow salvo) in any order the firing player chooses. If a given hellbore reduces the ESG to zero strength, the other hellbores are resolved against the ship as if no ESG had been active when they were fired (unless, of course, another ESG mounted on the same ship is active, in which case the hellbore would strike that field), i.e. each rolls normally for a chance to hit (E10.3).

TACTIC: If you want to fire hellbores at a damaged ship which is protected by an ESG generated by another ship, aim some of your hellbores at the protected ship and others so that they will strike the ESG. Since you can resolve the hellbores in any order of your choosing, fire those aimed at the damaged ship last; they will take effect after the ESG has been knocked down but on the same impulse.
(G23.845) A hellbore which misses its target does not extend onward to strike any ESG which happens to be down range.

EXAMPLE: A Lyran ship has an ESG up at radius three with a strength of fifteen. A Hydran ship seven hexes from the Lyran ship fires two hellbores, one overloaded and one standard, at the Lyran ship. Both hit the ESG, rather than the ship. At this range, either hellbore could knock down the ESG, and according to the rules if one does knock down the ESG field, the other will have to roll normally against the ship. For this reason, the Hydran player will carefully study the situation before deciding what order to resolve the hellbores in. At that range, the standard hellbore will do fifteen points of damage and eliminate the field, but with no carryover damage to the ship. The Hydran chooses to hit the field with the overloaded hellbore, which strikes with a strength of 22 points at four hexes range. Of these, fifteen points reduce the ESG to zero strength and the remaining seven points will hit the Lyran ship automatically without being further reduced by the extra three hexes of range. The Hydran will then roll normally for the standard hellbore which might do thirteen points if it scores a hit at all. In this way the Hydran may increase the damage he scores, and is guaranteed to do at least seven points to the Lyran ship. If he resolved the standard hellbore first, the overload might have missed and he would have scored no damage at all for his efforts.

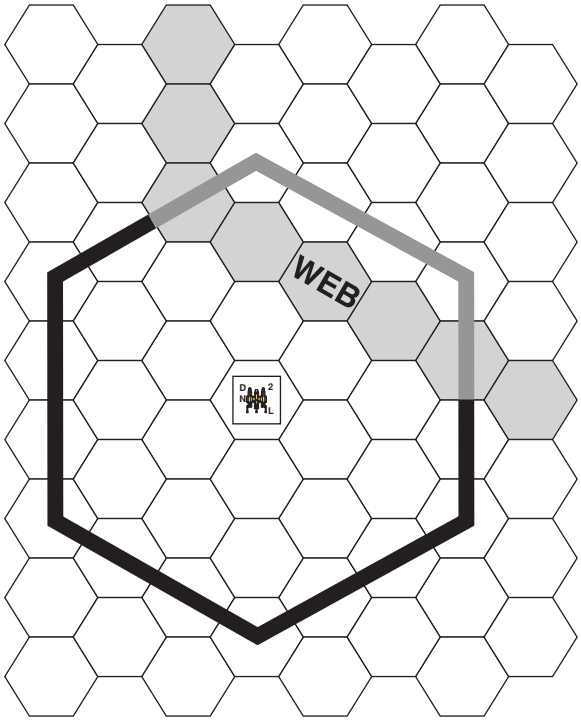
(G23.85) WEBS: ESGs cannot be projected into or through web hexes (G10.73). If web hexes are present, the portion of the expanding sphere that would otherwise be in or beyond web hexes simply does not exist.

See (E12.531) and (E12.553) for web casters.

Unstabilized freestanding webs have no effect (E12.551).

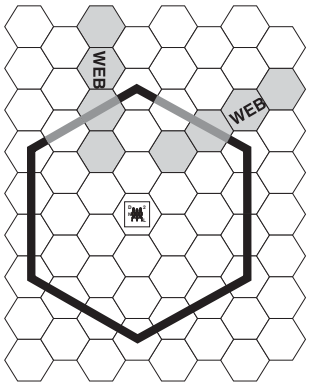
(G23.851) An ESG can be activated even if, at the time it becomes active, some hexes would be nullified by nearby webs.

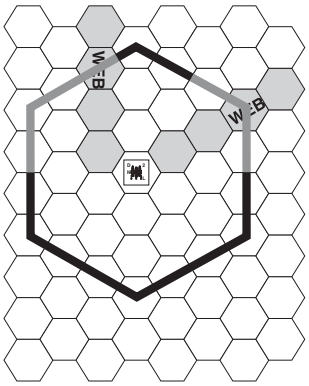
(G23.852) An ESG cannot be generated out of a web hex. An ESG operated by a ship which enters a web hex is treated as if the ESG field did not exist as long as the generating ship is inside the web hex. This applies to fields at any radius, not just Radius Zero, and the time spent in web hexes does count against the 32-impulse limit in (G23.32).



(G23.853) An ESG can be projected along the edge of a web hex (but not between two adjacent web hexes) into a hex beyond (G10.61).

(G23.854) As a ship generating an ESG moves in the vicinity of webs, various hexes that would normally be ESG hexes may be blocked and may become or cease to be ESG hexes as the ship moves. If a hex containing a unit becomes an ESG hex (as the generating ship moves to gain a "line of generation" to that hex), the case is resolved as if the ESG had just formed in that hex (G23.56). The ESG is not damaged by the web and nothing in a web hex can be damaged by an ESG.





(G23.86) PROBES: A probe launched for information cannot pass through or damage an ESG field (G5.23); it would be destroyed without gaining any info if this was attempted. A probe which did not penetrate an ESG field could gather information on objects behind it.

An armed probe (fired as a weapon) can pass through an ESG field (G5.37).

(G23.87) STASIS: If an ESG field strikes an object in stasis (G16.0), the object takes no damage, but the field loses the same strength it would if the unit struck were not in stasis.

(G23.871) A drone or shuttle in stasis would have to be identified (as to its damage points only) so that this calculation can be made.

(G23.872) A ship (Interceptor or larger) in stasis (G16.4) would require that damage from the ESG actually be resolved (but not scored) to determine if the unit in stasis would have been destroyed before the ESG lost its strength. (Otherwise, a very badly damaged ship that could be destroyed by a few damage points might bring down a twenty-point ESG field.)

To make the calculation against a ship (this will only be necessary if the ship is very small or very badly damaged, otherwise it will be possible to assume that it has enough strength points to survive and thus reduces the ESG field to zero), take the total number of undestroyed internal systems boxes (not counting sensor, scanner, and damage control, but including excess damage, and counting only one of each type of control box) and facing shield boxes and assume this to be the total number of damage points that the ESG could have scored before destroying the unit.

Base the reduction of ESG strength on this result. Note that in all but a few cases the ESG will simply be reduced to zero with no other effect, so calculations are not needed in most cases. Of course, none of this damage is scored on the unit in stasis.

(G24.0) SCOUT FUNCTIONS *(Commander's Level Rule)*

Certain units are specifically designed to conduct advanced electronic warfare tasks. These include scouts, bases, research/exploration/survey ships, long-range drone bombardment ships, PF tenders, and a few special units, such as the Kzinti SSCS.

The Federation E-3 SWAC shuttle (J9.0) is also capable of a limited number of scout functions and one special additional function. There is a scout version of PFs which has many but not all the abilities of a full scout; see (K1.75).

Within these rules, any unit that has special sensor boxes (and thereby scout function channels) is considered to be a "scout," although for purposes of (G21.01) and other rules only units designated as scouts are considered scouts. Note that (G21.0) does not apply to PF (K1.32) or shuttle crews (J6.0).

Note that scouts do not move ahead of a fleet to find the enemy, but remain with the fleet and search for the enemy using electronic sensors.

(G24.1) SCOUT FUNCTION CHANNELS

(G24.11) SSD: Units capable of scout functions have a number of scout function channels (hereafter "channels;" the terms "channel," "special sensor," "scout functions," and "scout functions channel" are more or less interchangeable). This should not be confused with the "sensor track" (D6.11) which includes a series of boxes, each with a number included. As an example, the Klingon F5S scout has two special sensor boxes (hence two channels); the Federation scout has eight.

Each channel is shown by a box on the SSD sheet; the box may be marked "special sensors" or "SEN" and will usually include a number as shown at right:

(G24.12) CHANNELS REQUIRED: Each scout function requires the use of a channel; each channel can only be used on a given turn for one function. A channel can change functions every turn without any delay. It is able to function immediately whether it changes functions or not.

(G24.13) BLINDING SENSORS: The firing or launching of a weapon by the scout [except as listed in (G24.134) below] blinds one powered scout channel (G24.14) of that scout (ship) for the next 32 impulses. One weapon blinds one channel. When a channel is blinded, this means that it has temporarily ceased to operate; see (G24.33). There are no exceptions to this procedure unless specifically stated in unit descriptions. Bases use rule (G24.135). The impact of a direct-fire or seeking weapon on a scout cannot blind a channel; however, see (G24.133).

(G24.131) If an unblinded but powered channel exists, and a weapon is fired, that channel (or one of those channels) must be blinded. If no unblinded powered channels exist, the player must extend the blinding of the powered channel that otherwise would recover first by 32 impulses from the current impulse. The blinding of a single channel cannot be extended by more than 32 impulses. If more weapons are fired than there are powered channels present, all powered channels are blinded for the next 32 impulses and the surplus firings have no effect.

NOTE: Unpowered channels can be blinded in some cases; see (G24.19).

(G24.132) The blinding takes place after the weapons fire is resolved. If the channel is not operating (not powered), it is not blinded and it could not be voluntarily blinded to avoid blinding a working channel. See (G24.14) for definition of powered sensors. If a scout blinds a channel that is providing ECM/ECCM or self-protection, the channel is considered blinded for the step in which it is blinded. Fire during an earlier step (e.g., the First Hellbore Firing Option) would not be affected; fire during the same step (e.g., another phaser fired by the scout, or a disruptor fired by a ship the scout was loaning ECCM to) would lose the scout support. If it had two channels working and the scout fired one blinding weapon, it could pick either channel to lose.

EXAMPLE: The standard tactic for a ship which has channels but must occasionally fire is to use them in pairs. On Turn #1, a PFT's channel #1 is powered and used to lend EW to its PFs, while channel #2 is not powered. On Impulse #32, the PFT fires all of its weapons, blinding channel #1. On Turn #2, channel #1 is left unpowered during its recovery time, while channel #2 is activated to lend EW to the PFs. The PFs would only be without EW support during the direct-fire weapons segment (6D) of Impulse #32 of Turn #1.

(G24.133) If there is an explosion (a destroyed ship or an explosive mine; NOT the impact of a weapon or collateral damage) which causes damage points to the scout or its shields (even if offset by shield reinforcement), one channel is blinded for each twelve damage points from the explosion (drop fractions of twelve-point increments) that extend into the scout's hex. This effect is also caused by certain types of terrain-induced damage, such as pulsars (G24.1813), white dwarves (G24.1856), and gravity waves (G24.1851). Explosion and terrain damage which is resolved in a single step of stage (6A3) of the Sequence of Play (Annex #2) is combined for purposes of determining blinding, e.g., two mines combine, but a mine and a ship explosion do not. Damage in separate steps is not combined, nor is damage carried over to subsequent impulses.

EXAMPLE: An NSM that detonates next to a ship with operating scout channels would blind two channels with 24 points but would not blind a third with the remaining eleven points of the 35-point blast, and this fraction would be lost. The remaining eleven points could be combined with the explosion of a second mine on the same impulse.

(G24.134) Some weapons blind special sensors, some do not.

(G24.1341) Weapons that DO NOT blind sensor channels include: phaser-3, ADD, suicide shuttle, scatter-pack, and drones launched from drone racks. Web generators do not blind sensors, although web casters and web fists do.

(G24.1342) Weapons which DO blind channels include everything not listed above (including lasers in the Early Years). Launching all types of plasma torpedoes, including plasma-Ds and PPTs [even one launched as an ECP (FP12.14)], and firing plasma bolts, will blind sensors. Web casters and snares would blind the sensors if fired as such but not if used as web generators. If a phaser-G fires more than once in an impulse, it will blind a channel (and will blind a channel every impulse it does so).

(G24.1343) Phasers larger than phaser-3s can be fired as phaser-3s to avoid blinding sensors; see (G24.34) and (E2.25).

(G24.1344) Probes fired for information [(D17.15) and (G5.2)] do not blind a channel; probes fired as weapons (G5.3) do blind channels.

(G24.1345) Each ESG that is activated blinds one powered channel at the time it becomes active. The only time a channel is blinded is on the impulse the ESG becomes active. If no channels are powered, then none will be blinded. If any are powered in Energy Allocation while an ESG is still operating from the previous turn, the channels will not be blinded.

(G24.1346) See (C13.941) for blinding caused by weapons fire of a ship docked to a ship with scout channels.

(G24.135) BASES do not have exhaust ports for propulsive gases and can mount their sensors in areas where they are shielded from their own weapons fire. No base will blind any of its sensor channels as a result of firing its own weapons. The blinding of explosions (G24.133), pulsars (G24.1813), and gravity waves (G24.1851) remain in effect as do all other (G24.0) rules.

(G24.14) ENERGY REQUIRED: It costs one point of power to operate each channel. This is referred to as "powering," "activating," or "turning on" the channel itself, an action which is separate from providing additional points of power for specific scout functions (G24.2).

(G24.141) Channels cannot be powered by reserve power (H7.0); they must be powered during Energy Allocation.

(G24.142) This power lasts for the entire turn; the channel cannot be turned off (e.g., to avoid blinding) during the turn but could cease performing whatever scout function it was performing. A channel could be turned off involuntarily by (D22.0) but could still be blinded for the remainder of the turn.

(G24.143) Some functions, such as lending EW points (G24.21) and scout self-protection (G24.28), require additional energy.

(G24.144) Unpowered channels cannot be used during that turn; they cannot be blinded while inactive (G24.132), but might have been blinded previously. See (G24.19) for an exception.

(G24.145) During the period it is blinded, a channel can be powered but cannot function.

(G24.15) ARC: All channels are able to function in a 360° arc from the ship. They can be blinded by weapons fire (by the scout unit) in any direction or by explosions from any direction. See (G24.1841) for an exception.

(G24.16) PROHIBITED USE: A scout cannot use any of its channels while executing Erratic Maneuvers (C10.52), while cloaked [(G13.515) except for (G24.28)], or while it has an operating WW (J3.403).

(G24.161) Special sensors require the ship to have active fire control (D6.623) and a lock-on (D6.124) to the object on or against which the channel is performing its function (e.g., there must be a lock-on to a drone in order to attract it or break its lock-on). Unless specifically superseded in the description of a particular scout function, such as in (G24.28), a channel cannot be used while the scout is employing passive fire control (D19.0).

(G24.162) While the above conditions will prohibit the use of the channel, it may still be activated (G24.14) and have power allocated to support its scout functions (G24.2), pending a change in conditions permitting the actual use of the channel.

(G24.17) DESTRUCTION: Special sensors are destroyed on the hits for the weapons they replaced, or as specified by the ship description. Base SSDs in *Module R1* show what the special sensors on bases are destroyed on. If the channels are destroyed on phaser hits, direction (D4.321) is ignored. Special sensors have a relatively high priority in taking required weapon hits; see (D4.322) and Annex #7E. Also see (G24.331) for the effects of destroying a special sensor.

(G24.18) TERRAIN, WEB, BLOCKED ARCS: Terrain (and some other situations) have a degrading effect on special sensors, and may block their use entirely. Note that many terrain types generate "natural source" ECM (D6.3143), which, by providing additional protection to these targets under the normal EW rules, will also reduce the net effect of some scout functions [e.g., (G24.29)].

(G24.181) TERRAIN (OBJECTS): Some objects block the use of special sensors or degrade some aspects of their function.

(G24.1811) Planets: As most scout functions require effective lock-ons, the procedures in (P2.322) will apply to special sensors, e.g., if lock-on is lost, the special sensor will not be able to perform the designated function until lock-on is regained. See also (G24.1815).

(G24.1812) Black holes add ECM which may interfere with the collection of tactical intelligence (P4.24). See (G24.29).

(G24.1813) Pulsars may blind channels through damage [(G24.133) and (P5.2)] and provide EW jamming (P5.355).

(G24.1814) Atmospheres will degrade scout channels through ECM (P2.51). The special sensors of a base deployed on a planetary surface will ignore the effects of atmosphere, in a manner similar to (P2.722); see (P2.736).

(G24.1815) Special sensors will not function if a direct line to the object(s) of the operation (e.g., the drone being identified, the ship receiving lent ECM, the ship receiving lent ECCM *or* its target) is blocked by a planet or a large moon [assuming that it breaks lock-on (P2.3221)] or passes within two hexes of a pulsar (P5.0) or black hole (P4.0).

(G24.182) Special sensors will function through a web (G10.64). Tractors do not affect special sensors (G7.91), but see docking (C13.764) and (C13.941).

(G24.183) Asteroids have a degrading effect on special sensors. Each hex of asteroids counts as two hexes of effective range for purposes of the special sensor range limits in functions (G24.21), (G24.22), (G24.23), (G24.25), and (G24.27). Use the largest number of asteroids on the most direct path (i.e., a path that includes only hexes on a direct line-of-sight).

(G24.1831) Asteroids [(P3.33) and (P3.35)], ring material (P2.223), and dust clouds (P13.4) add ECM which may interfere with the collection of tactical intelligence (G24.29).

(G24.1832) See (P3.432) for the effect of being docked to a large asteroid, e.g., there is no lock-on through the blocked arc so no scout function can be performed through that arc except to the large asteroid (or possibly a unit on the asteroid if such unit is on the same side of the asteroid as the lending scout) itself. Note that performing a scout function on or to the asteroid (as opposed to a unit on the asteroid) would be a special scenario rule (e.g., looking for some object or mineral, etc.).

(G24.184) Scout functions cannot be performed by or on a unit docked inside another unit (C13.4842) or by a unit docked externally to a base (C13.764).

(G24.1841) Scout functions cannot be performed through a blocked arc; see (C13.941) and (C13.72) [the latter of which applies only to using scout functions onto a unit docked externally to a base since the docked unit itself cannot use scout channels (C13.764)].

(G24.1842) PF scouts cannot use their scout functions while held in mech-links or on a landing pad; see (K1.75) and (K2.43).

(G24.1843) This prohibition includes Andromedan satellite ships inside hangar bays (G19.27).

(G24.1844) Shuttles with scout functions [e.g., SWACs (J9.0)] cannot use these functions while in/on a shuttle bay, landing pad, a balcony, or mech-links.

(G24.185) TERRAIN (ZONES): These have additional affects on scout sensors as follows:

(G24.1851) Gravity waves may blind channels through damage; see (G24.133) and (P9.12).

(G24.1852) Nebulas prevent all use of scout channels (P6.6). A special sensor cannot have any direct effect on a unit inside a nebula, but can have indirect effects, e.g., lending ECM to a unit outside a nebula that a unit inside is targeting, or lending ECCM to a unit outside of a nebula that is targeting a unit inside.

(G24.1853) Novas and supernovas affect scout channels through the effects of other terrain types (P12.5).

(G24.1854) Radiation zones limit the range at which tactical intelligence may be gathered (P15.6) by eliminating the scout column on the chart and forcing scouts to gather intelligence as non-scout ships.

(G24.1855) Ion storms have the effects of both radiation zones (P14.1) and sunspots (P14.3). If stronger than normal gravity waves (P14.2) are in evidence (perhaps under a special scenario rule), blinding under (G24.133) may also occur.

(G24.1856) See (P15.5) for neutron stars, (P10.5) for white dwarfs.

(G24.1857) Heat zones do not have any effect on scout channels.

(G24.1858) Sunspot activity will severely degrade the use of some scout channel functions; see (P11.3).

(G24.186) ELECTRONICWARFARE: Scout functions are not directly affected by electronic warfare unless the specific function says so. This means that a scout does not need to generate its own ECCM to counteract the ECM of an enemy ECM drone it is trying to attract (G24.23), but ECM does affect the ability of a scout sensor to gather intelligence (G24.292).

(G24.19) WYN RADIATION ZONE: Passing through the WYN radiation zone (P7.26) blinds channels. The channels will remain blinded for ten turns after the ship leaves the zone. This blinding occurs irrespective of whether or not the channels were activated (powered) while the ship traversed the zone. This is due to the intensity of the radiation in the zone.

(G24.2) SCOUT FUNCTIONS LIST

The specific functions that scout sensors can be used for are listed below. EW shifts cannot affect any of these functions except where noted. Each channel may perform only one of these functions each turn.

These scout functions are sometimes referred to by the suffix of their primary rule numbers, e.g., "scout function #21" refers to lending ECM or ECCM (G24.21). While other units may have capabilities which are similar to scout functions (e.g., the EW lending capability of MRS shuttles), these capabilities are not regarded to be "scout functions," unless their specific rules indicate that they are.

(G24.21) LENDING ECM OR ECCM: Scouts can "lend" additional electronic warfare (ECM and/or ECCM) points to another ship (or some other units noted below) on the same side and can jam an enemy unit (G24.219). Scouts can also "lend" ECM points to themselves using these procedures, but this is under the additional requirements of (G24.28). They cannot lend themselves ECCM. See (M4.44) for captor mines.

NOTE: MRS shuttles (J8.0), SWAC shuttles (J9.0), electronic warfare fighters (EWFs) (R1.F7), and carriers (J4.93) have similar lending functions which are covered in their specific rules.

(G24.211) GENERATING EW POINTS: Channels can lend ECM or ECCM generated by the scout, but channels do not generate EW points themselves. (Some players have incorrectly assumed that the one point of energy spent to operate the channel automatically produces six points of electronic warfare without any cost.) Lending six points of EW costs seven points of energy; one to operate the channel (G24.14) and six for the six points of EW. EW points are generated under the provisions and limitations of (G24.31). EW which will be lent at the beginning of a turn must be announced in the Sensor Lock-on Phase and takes effect at that point.

NOTE: Changes in EW status must be announced as they occur in the event of damage which destroys a sensor, or reduces available power under (D22.0), or if voluntarily adjusted in the Lock-on Stage (6B3) (lending) or the Fire Allocation Stage (6D1) (a unit's own EW). If not using (D17.0), the specific unit with special sensors and the unit to which it is loaning EW must be identified as part of the announcement. This is known even if using (D17.0); see (G24.2115), (G24.36), and (D17.194).

(G24.2111) These points must have been produced by the scout on the current turn. A given electronic warfare point can only be used by one unit [exception, (G24.213)]; if it is lent to another unit, the scout cannot use the EW itself and cannot lend it to a second unit.

(G24.2112) A scout must use at least one channel for each unit it is lending points to [exception (G24.213)]; if a channel is used for this purpose, it cannot be used for any other purpose during the remainder of the current turn. A given channel can only lend a maximum of six points of EW (ECM and ECCM combined). As (D6.3144) limits the maximum EW received from lending to six ECM and six ECCM, a scout would need at least two channels to lend the maximum EW to a given unit. As long as both channels were from the same scout, this would count as a single source for purposes of (J4.922). See also the limit of one channel for self-protection (G24.282).

EXAMPLES: A given channel could be providing three ECM and later in the same turn three ECCM could be added to it, but that one channel would be required to drop the ECM in order to loan six ECCM.

(G24.2113) Each electronic warfare point is generated during a turn and lasts for the remainder of that turn, unless the point is dropped by the scout or the channel lending the EW point

ceases to operate (G24.33); see (G24.13) and (D22.0) for possible exceptions.

(G24.2114) A scout could generate EW points and hold them in readiness during the turn that they are generated, lending them to a unit later during the turn (assuming that channels were available). This does not prevent the scout from loaning some points at the start of a turn and holding others in readiness. This generation of EW points could also be done with reserve power (H7.2). Scouts can deploy ready electronic warfare points in the Lock-On Stage of the Impulse Activity Segment. Whether a given EW point is ECM or ECCM, and which unit it is used to support (the scout or lending), is designated at the time that the point is actually used (G24.312). Note that reserve power cannot activate a sensor (G24.141), but can be used by an active sensor as outlined in this rule. Also note that points from allocated power held as "ready" points can only be used for the scout itself for self-protection by means of (G24.28).

(G24.2115) The lending of EW points (which unit is lending, which is receiving, how many channels are in use, and how many points of each type are involved) is always known; see (D17.194).

(G24.2116) Power allocated for EW points is regarded as a continuous expenditure which is "operating" if the EW points are being lent and "available" if they have not been lent; see (D22.1).

(G24.2117) EW points held in readiness under (G24.2114) can only be used as EW points for lending purposes under (D6.3144) and (D6.3145) [using the procedures of (G24.21) and (G24.28)]. They cannot be used as EW points under the unit's "generated" EW limit (D6.3141). Similarly, EW points "generated" under (D6.310) cannot be used as EW points for lending purposes. See (G24.31).

(G24.212) LENDING EW POINTS: A scout can lend its electronic warfare points to a unit either during the Sensor Lock-On Phase at the beginning of the turn (plotted secretly and announced simultaneously with all other EW declarations) or, if held for later use (G24.2114), during the Lock-On Stage (6B3) of any Impulse Activity Segment (6B) (plotted and announced simultaneously, prior to any rolls for lock-on itself). Note that EW lending adjustments during the Lock-On Stage of an Impulse Activity Segment occur a number of steps before adjustments in self-generated EW points, which occur in the Fire Decision Step of the Fire Allocation Stage (6D1) (D6.315).

(G24.2121) Unless its EW points are dropped (G24.2113), a scout will continue to lend its EW points for the remainder of the turn (G24.2122). If the receiving unit is temporarily unable to receive these lent EW points, perhaps because it has moved out range (G24.2181) or because the scout has temporarily lost a lock-on to the receiving unit (such as if either unit cloaked) or is otherwise prohibited (e.g., if either unit launched a wild weasel), once normal conditions are restored, the same lent points would be available to the receiving unit (for the remainder of the turn). See (G24.218).

(G24.2122) A scout may voluntarily drop EW points during the Lock-On Stage (6B3) of an Impulse Activity Segment, possibly to permit a channel to lend additional points of the other kind (these additional points could be provided during the same step that the old ones are being dropped). Energy balance due to damage (D22.0) may also require the dropping of lent EW points, which will be dropped immediately upon re-balancing power. Dropped EW points are lost and cannot be used; new points can be generated in the next turn. A similar result happens when the channel itself ceases to operate; see (G24.33).

(G24.2123) A scout cannot shift lent electronic warfare points from one unit to another or from itself to another unit.

EXAMPLE: A Klingon F5S scout generates fifteen points of electronic warfare and activates both of its special sensors during Energy Allocation of a given turn. It designates six of these points as ECM for its own protection [this does not require a channel as it is normal ECM under (D6.3141); it is not being done under (G24.28)]. The F5S then uses channel #1 to lend three points of ECM to a D7 during the Sensor Lock-On Phase. The other six points, and channel #2, are kept in readiness. Later in that same turn during a Lock-On Stage (6B3), the scout lends two points of ECCM to the D7 so that some drones it is guiding will have a better chance to hit their target on the next impulse. This still uses channel #1. Ultimately, the D7 is destroyed. The five points lent to it are lost; they cannot be transferred to another ship. Still during the same turn, the scout uses channel #2 during a subsequent Lock-On Stage (6B3) to lend its last four points as ECM to a D6 in an effort to protect it from a Federation CA which is in position to fire its photon torpedoes.

(G24.213) PF TENDERS can use one of their channels to lend electronic warfare points (up to six points) to any (or the same points to all) of the PFs of a given flotilla originally carried by that tender; see (K2.52) for procedures and restrictions.

NOTE: PF scouts have some specific abilities and limitations; see (K1.75).

(G24.214) SEEKING WEAPONS: A scout cannot lend EW points to a seeking weapon (even a seeking shuttle), but can lend ECCM to the unit guiding that seeking weapon. Note that offensive EW (G24.219) can create some of the effect of loaning such units ECM. While ECM drones can lend to a seeking weapon (FD9.2), this is a different system than scouts use.

(G24.215) PROHIBITED: EW points cannot be lent to a monster or to a planet, or any other terrain feature not specifically allowed in its description. Note that offensive EW (G24.219) can create some of the effect of loaning such units ECM. EW points could be loaned to a base on a planet within the limits of the other rules.

(G24.216) LIMIT: Note that (D6.3144) limits the number of EW points that a unit can receive from scouts [and other sources, including ECM drones (FD9.0), MRS (J8.0) or SWAC shuttles (J9.0), etc.].

(G24.217) SHUTTLES, PFs: Scouts can loan EW points to a specific fighter (or any shuttle), but cannot lend to an entire squadron as a carrier or EWF (or SWAC or MRS) could (J4.9).

(G24.2171) Scouts can loan EW points to a specific PF, but not to an entire flotilla as a PFT (K2.52) or PF-scout (K1.75) could.

(G24.2172) In each case, a carrier, MRS, SWACS, EWF, PFT, or scout PF cannot re-lend points that it received by lending from a scout.

(G24.2173) PFTs and PF-scouts require channels; carriers, MRSs, SWACSs, and EWFs do not. Carriers with special sensors (e.g., Fed CVL, Kzinti SSCS) use the normal carrier-EW procedure (J4.93) to lend to their squadrons; they alternatively could use a channel to lend to one fighter as above.

(G24.2174) Non-fighter shuttles can receive EW from lending and are under the single-source restriction of (J4.922), but are not otherwise treated as fighters. They cannot have EW pods (J4.966), cannot be lent EW by the ship they operate from by the (J4.93) system, and are never part of squadrons. They can receive a maximum of four points of ECM and four of ECCM. Note that MRS shuttles are fighters for some cases and not for others; see (J8.0) for specific cases. This lent electronic warfare cannot exceed the amount of electronic warfare that a fighter is limited to under (J4.91), i.e., a fighter cannot receive more than four points of ECM or four points of ECCM.

(G24.218) LOCK-ON: Scouts cannot lend ECM to a unit unless they have a lock-on (D6.11) to that unit. Scouts cannot lend ECCM to a unit unless they have a lock-on to that unit, and this ECCM does not count unless the scout also has a lock-on to the target. Self-protection (G24.28) does not require the scout to have a general lock-on.

(G24.2181) The receiving unit must be within fifteen hexes to receive EW points from a scout. The target of the receiving unit's fire must be within 100 hexes of the scout for the receiving unit to use any ECCM it received from the scout.

(G24.2182) MRS shuttles use a slightly different system; see (J8.41). SWAC shuttles also use a slightly different system; see (J9.11).

(G24.2183) ECCM lent by a scout cannot be used by the receiving unit against a cloaked unit unless the scout has a lock-on to the cloaked unit (G13.33).

(G24.219) OFFENSIVE EW: Scouts can, in effect, lend "negative EW" to an enemy unit. This is called offensive electronic warfare, offensive EW, or O-EW. No single unit can be lent more than six points of offensive EW. O-EW applied by one scout against another scout has no effect on the second scout's ability to use its scout functions.

(G24.2191) The scout must be within fifteen hexes of, and have a lock-on to, the target of this offensive ECM.

(G24.2192) Each channel can, within the rules above, lend O-EW points to one enemy unit (base, PF, etc., NOT a seeking weapon or a shuttle), up to a maximum of six points (D6.3145) from any and all sources.

(G24.2193) O-EW counts as ECM for all targets *OF* that specific enemy unit. This six points is in addition to any other EW points

the target may have [lent by friendly scouts (D6.3144), generated by the unit itself (D6.3141), natural sources (D6.3143), or built-in (D6.3142)]. The target unit cannot refuse to accept this ECM, but it has no effect on the target's ability to receive friendly lent EW as these are under separate limits.

(G24.2194) Including offensive-EW, a single unit may have up to eighteen points of EW being lent to it at one time and could generate six more points itself. Note that natural EW (D6.3143) is not included in this limit.

(G24.2195) No ECCM can be lent under this rule.

EXAMPLE: A Kzinti scout uses one channel to lend ECM to a Kzinti cruiser, giving it some protection (a die roll shift) from all Klingon ships in the battle. The scout uses another channel to "lend" three points of O-EW to the Klingon D7C command cruiser, giving it a penalty (a die roll shift) when firing at any Kzinti ship, shuttle, or drone. The Klingon D7C counters this in the Fire Decision Step (6D1) by using batteries to generate three points of ECCM (it had none generated previously). The Kzinti had hoped the Klingon would do this (it is why he initially allocated only three points of offensive EW). On the following impulse, the Kzinti uses a point of ready EW power to impose another point of offensive EW jamming on the D7C, which (in this case) provides a +1 shift.

(G24.22) BREAKING LOCK-ONS: Scouts can attempt to break the lock-ons of enemy drones. All references to "drones" in (G24.22) also apply to seeking shuttles (FD1.8). This function will not affect PPD wavelocks (E11.15).

(G24.221) Each channel can make three attempts per turn; if used for this purpose, it cannot be used for any other purpose during the remainder of the current turn. The three attempts can be on the same drone or different drones, but cannot be made on the same drone in a single impulse. Three attempts on the same drone must be on different impulses, and the second and third attempts are not committed until the attempt(s) on previous impulses are resolved. Two (or more) channels could make an attempt on a single drone during a single impulse, but all attempts must be committed by the player before the actual die roll is made for any of them. Aegis (D13.0) cannot be used with this or any other scout function. Attempts on three different drones could be made on the same impulse by one channel.

(G24.222) The target drone must be within fifteen hexes.

(G24.223) To break the lock-on, the scout player designates the drone in question and rolls one die. If the result is one-to-three, the drone has lost its tracking and is removed from the map. Seeking shuttles are not removed from the map; they go inert (FD1.72). This applies even if the drone is a type-III or ATG-equipped and had assumed its own guidance. See also (G21.135), (G21.235), (G22.33), and (G22.722) for the effects of crew quality and legendary officers.

(G24.224) Once lock-on is broken, control of the drone cannot be transferred (F3.5) to another unit or released (F3.4) to the drone's own ATG systems (FD5.2).

(G24.225) Ballistic drones (F4.0) are not affected by this procedure.

Warp-seeking (type-VI dogfight) drones (FD5.131) and (XFD2.51) which have achieved lock-on are not affected by this procedure.

Plasma torpedoes (including plasma-Ds) are immune to this function.

(G24.226) If a shuttle has not previously been identified as a seeking weapon, an attempt to break a lock-on can still be made. If successful, a non-ballistic seeking shuttle will go inert. A manned seeking shuttle may, at the owning player's option, simulate going inert, i.e., stop moving (J1.223) in hopes of fooling an opponent for some reason. Otherwise manned non-seeking or ballistic shuttles will continue to operate normally.

(G24.23) ATTRACTING DRONES: Scouts can distract drones within fifteen hexes and cause them to accept the scout as their target (they still behave normally). (There is no way to "temporarily" attract a drone using this procedure.) Once it accepts the scout as the target, the normal drone rules apply. This function will not affect PPD wavelocks (E11.15). A scout cannot attract drones which are following a tractor beam (G7.943). An ECM drone attracted by an enemy scout will protect that scout (FD9.15). The controlling ship could release control of the drone, which would cause it to go inert unless the drone had achieved its own ATG lock-on to the scout. All references to "drones" in this section (G24.23) also apply to seeking shuttles, unless specifically stated otherwise; see (FD1.8).

TACTIC: A scout will often attract seeking weapons aimed at key units and draw them into areas where other ships could destroy them. Since the scout is usually to the rear of the formation, the combat ships could then engage the drones with non-facing weapons. In an emergency, a scout might attract a large number of such weapons and then use a WW (or allow itself to be hit). In practice, it would be simpler to just break their lock-ons. One favorite trick is to attract an enemy ECM drone, which will stop lending ECM to the original target ship (or the drone wave it was traveling with) the moment it accepts the scout as its target. If such an ECM drone were to reach the hex of the scout, it would begin (within the limits of the remaining endurance of its ECM module) lending ECM to the scout. For this reason if the ECM drone is still being guided by an opposing ship, that ship will drop its tracking to the drone rendering it inert.

(G24.231) It takes one channel to attract one drone; if used to attract a drone, the channel cannot be used for any other purpose during the remainder of the current turn.

(G24.232) If the channel that was used to attract drones is blinded or destroyed, the drones remain targeted on the scout and will not return to their former target. (Note that, as a channel can only attract one drone each turn, the only way it could attract more than one drone would be to perform this function on two or more separate turns.) If the scout voluntarily shuts down the channel, the weapons remain targeted on the scout. If the scout uses a WW, the normal WW rules apply (J3.0).

(G24.233) Dogfight drones [(FD5.131) and (XFD2.51)] that have achieved their own lock-ons, ballistic drones (F4.0), and plasma torpedoes (including plasma-D) are immune to this function.

(G24.234) The scout must be within 35 hexes of the unit controlling the drone in order to attract it. This range limitation applies only at the time of transfer. Note that if the scout is then moved to a range of more than 35 hexes from the controlling unit, the drone will lose tracking (F3.31) and go inert (FD1.7), unless it is capable of self-guidance and within eight hexes of the scout at that time (F3.42). A scatter-pack (or MW drone) which has accepted the scout as its target is subject to (FD7.345).

(G24.235) A scout can attempt to attract a shuttle that has not been identified as a seeking weapon. If the player controlling the shuttle indicates that it is not attracted, it will mean that it is either manned, or on a ballistic course. The player owning such an unidentified shuttle that is manned may choose to indicate that the channel is attracting it in an effort to fool his opponent, but the shuttle must operate as a seeking weapon while still moving in the shuttle step of the Order of Precedence (C1.313).

(G24.24) CONTROLLING SEEKING WEAPONS: Scouts can use one of their sensors to control up to six seeking weapons, in addition to (and irrespective of) whatever weapons the scout can normally control (F3.2). No more than one sensor channel per scout can be used for this purpose in a given turn. EW shifts may reduce the damage from these weapons (D6.36), but will not reduce the ability to control that number of weapons.

EXAMPLE: A Hydran scout, with no seeking weapons and control equal to one-half of its sensor rating (normally six), could control 3+6 seeking weapons. A Klingon scout (with drone racks) could control 6+6. The Kzinti medium scout, which can inherently control a number of weapons equal to double its sensor rating, can use one channel to increase this to eighteen weapons. (This assumes that none have had their sensor ratings reduced by damage.) The ability of a special sensor to guide six seeking weapons is not affected by damage to the scout's sensor rating so long as a lock-on is achieved (D6.11).

(G24.241) If a channel is used for this purpose, it cannot be used for any other purpose during the remainder of the current turn.

(G24.242) If the specific channel performing this function is blinded, the ship must immediately release (F3.4) or transfer (F3.5) the tracking of weapons in excess of those equal to the normal sensor rating limit.

(G24.243) The scout guides the seeking weapons within the limitations of (F3.31); e.g., maximum range of 35 hexes.

(G24.25) IDENTIFYING SEEKING WEAPONS AND SHUTTLES: Scouts can use their channels to identify seeking weapons and shuttles. They can also identify mines (M7.52).

(G24.251) One lab box must be assigned to each channel used for this purpose; the combination can make four attempts at identifica-

tion. If used for this purpose, the channel and lab cannot be used for any other purpose during the remainder of the current turn.
(G24.252) The attempts can be made against the same or different seeking weapons or shuttles; all attempts on that impulse must be declared before any are resolved. These attempts may be made on the same or on different impulses. The target seeking weapon or shuttle must be within fifteen hexes of the scout to be identified. For each attempt, roll one die. If the result is less than four, the owner of the seeking weapon or shuttle must provide the information in (G4.23). This die roll is not affected by EW, but may be affected by legendary science officers (G22.33), or by poor (G21.135) and outstanding (G21.235) crews.

(G24.26) DETECTING MINES: If a scout uses one of its channels to detect individual mines, its detection range in (M7.32) is increased to ten hexes. If the channel is used for this mission, it cannot be used for any other purpose during the remainder of the current turn.

Scout PFs are limited to six hexes by (M7.322).

SWACS can use their sensors for this; see (J9.12).

(G24.27) GATHERING INFORMATION: A scout can use its channels to gather information about monsters or other scientific phenomena.
(G24.271) The scout can perform this function during any impulse. Each channel with a lab assigned to it gathers ten points of information if the object of study is anywhere within fifteen hexes. A scout must have one undestroyed/uncaptured lab box [or substitute (G4.3) under the limitations of that rule] for each channel used for this purpose. This intention must be announced at the beginning of the turn.

Exception: A control space used for this function under (G4.3) will still function as a control space for purposes of keeping the ship under control (G2.2).

See (G4.1) for using labs without special sensors to obtain scientific information.
(G24.272) Each channel can be used for this function only once per turn. If a channel and lab are used to gather information, neither can be used for any other purpose during the remainder of the current turn.

(G24.28) SELF-PROTECTION: A scout can "lend" up to six ECM points to itself [even if it is on passive fire control (D19.12) and, technically speaking, doesn't have a lock-on to itself] by using one channel as in (G24.21). This function is the only one that can be performed by a cloaked scout (G13.515).
(G24.281) If a channel is used for this purpose, it cannot be used for any other purpose during the remainder of the current turn. This effectively increases the amount of ECM a scout can use to twelve, but is still under the lending limits of (D6.392) and (D6.3144), which would mean that the scout cannot receive loaned ECM from other units (ECM drones, SWAC or MRS shuttles, starbases, etc.) if it is loaning itself six points of ECM. It could receive enough lent ECM points to have a total of six lent ECM points if it was not lending itself the full total of six points of ECM.
(G24.282) Only one channel can be used for this purpose. This rule provides a partial exception to (G24.2112).
(G24.283) Scout ships cannot lend ECCM to themselves. Bases can lend ECCM to themselves.

(G24.29) TACTICAL INTELLIGENCE: This function is described in (D17.121). It does not cost extra energy, but the channel itself must be powered (G24.14). See also (D15.761).
(G24.291) If a channel is used for this purpose, it cannot be used for any other purpose during the remainder of the current turn.
(G24.292) A ship with scout channels assigned to this function uses the "scout" column on (D17.3). Prolonged observation (D17.25) requires a channel to be continuously operated for this purpose. If a channel is not powered and assigned to this function, the scout gathers tactical intelligence as a normal ship. This function can be affected by EW shifts; see (D17.26).
(G24.293) SWACS can use the SWAC column in (D17.3) if they dedicate a channel to this function. If they do not dedicate a channel for this, they are treated as MRS shuttles.
(G24.294) Scout PFs count as SWACS (D17.122) if they have a channel dedicated to this function.

(G24.3) ADDITIONAL SCOUT SHIP RULES

(G24.31) GENERATING EW POINTS: Scouts can use any amount of energy (G24.143) that they have available to generate ECM or ECCM points, but due to the limits of (G24.311), most of the points generated will probably be for use in lending (G24.211). [Note that non-scout ships cannot generate more than six total points of ECM and ECCM combined. Andromedan ships might spend more power (D10.73), but cannot use more than six points at a time.]
(G24.311) Scout ships cannot USE more than twelve points of self-generated electronic warfare for their own benefit. Of these twelve points, six (which can be ECM or ECCM or any combination that totals six) are the normal EW any ship can use (D6.310). The other six, which can only be ECM, can be used only as a function of self-protection jamming (G24.28).
(G24.312) Whether a given EW point is ECM or ECCM, and which unit it is used to support (the scout, or lending), is designated at the time that the point is actually used. See (G24.2114) for details, and for restrictions on self-use.

(G24.32) OTHER SCOUT FUNCTIONS: There are other functions of special sensors which do not appear on the (G24.2) list because of their nature. They include the following:
(G24.321) Scouts with working special sensors raise the weapons status of fleets they are a part of (S4.22). A PF scout counts for this purpose only for the units in its flotilla, its PF tender, and any fighters operated by the tender. See (K1.75) and (K0.3). As this function is never used after the scenario begins, no specific rules for performing it are necessary at this time. Such a function may be defined in *Module V.*
(G24.322) A scout with active channels increases the range required for disengagement by separation; see (C7.23).
(G24.323) A scout with sensors set for certain functions is more likely to detect a hidden ship; see (D20.232).

(G24.33) CEASING OPERATIONS: The use of special sensors (a.k.a. scout channels) can be terminated by several different methods. Ceasing operations by any method means ending whatever function that channel was performing and losing all power applied to that channel. Such lost power is treated as "expended" under (D22.0).
(G24.331) If the scout channel is destroyed or blinded (G24.13), whatever function that channel was conducting is terminated at the end of the current Segment of the Impulse Procedure of the Sequence of Play [e.g., Direct-Fire Weapons Segment (6D)].

EXAMPLE: A scout is using a channel to provide ECM to another ship. At the end of the Segment that the channel is destroyed, in this case the Movement Segment (6A) (as the damage was caused by the impact of a seeking weapon), the receiving ship loses the ECM it had been receiving prior to the impact of the weapon.
(G24.332) A scout can voluntarily shut down a channel at any time, ending whatever function it is performing immediately. [Note that drones which have accepted the scout as a target under (G24.23) will continue to track the scout normally once the scout has attracted them.] The channel will remain "active" for purposes of blinding under (G24.13) until the end of the turn. Only channels that have not been activated during the current turn are immune to blinding. A scout may be forced to shut down a channel in order to perform energy balance due to damage (D22.0).
(G24.333) If a unit performing scout functions moves out of range (or the target of the function does), moves behind an object which blocks line of sight (or the target of the function does), or if the scout shuts down its fire control, the function is suspended immediately. If the target (or the scout) moves back into range, if the line of sight is no longer blocked between the scout and the target, or if the scout's fire control is active again, and the function was a continuous expenditure (such as loaning EW), the function is immediately resumed from that point to the end of the current turn. If an MRS or SWAC shuttle lands aboard a ship (or a scout PF docks), it ceases providing EW immediately.
(G24.334) In the event that a channel ceases to operate through voluntary termination of its function, any EW points currently being lent [(G24.21) and (G24.28)] by that channel are dropped (and lost) at the same time the channel ceases to function.

(G24.34) LOW-POWERED PHASERS: Using (E2.25), a scout ship can fire its phaser-1 or phaser-2 weapons as phaser-3s in order to defend itself without blinding its channels (G24.134), or simply to save power. [Note that a base could fire its phaser-4s as phaser-3s in this manner as well, although there is no reason to, see (G24.135).] Any ship can use (E2.25), but scouts have an extra reason to.

(G24.35) BPV: The BPV of scout ships and PF-scouts is expressed on the chart as A/B, where A represents the economic value (what it costs to build) and B represents the combat value (how well it can fight).
(G24.351) If a scout ship is used alone, it uses these values as they are stated.
(G24.352) If it is used with other non-scout ships on the same side, the reduced combat BPV is ignored and the economic BPV is used for both purposes. The presence of two scout ships counts as a scout and a non-scout for purposes of BPV, i.e., both scout ships are purchased at economic BPV. See exception in (G24.355).
(G24.353) This procedure does not apply to the Federation SWACS shuttle (J9.0).
(G24.354) Ships designated as Police Flagships (most are found in *Module R6)* are exempt from this rule and are always purchased at combat BPV.
(G24.355) If the scenario does not allow the use of scout systems in any way, e.g., a monster scenario where several ships are involved and no scout functions can be used, then scouts are purchased at combat BPV.
(G24.356) Some ships found In Modules published after *Advanced Missions* can assume the role of scout by the addition of modules. These include modular fast patrol ships found in *Module K*, and tugs carrying pods with scout functions.

(G24.3561) If a tug is carrying one or more pods that have special sensors, it is considered to be a scout, even if it drops the pod during the scenario. If the combination is purchased as part of the forces in a scenario, it is purchased at its economic cost as any other scout in a multi-ship scenario (G24.352). If the tug carries one pod with special sensors and a second pod without special sensors, the tug and pod with special sensors are counted and purchased at the economic cost under (G24.352), but the second non-scout pod is purchased at its normal combat BPV.

(G24.3562) If a modular fast patrol ship uses scout modules during a scenario, whether it arrives on the map at the beginning of the scenario with those modules, or has them installed during the scenario, it is considered to be a scout fast patrol ship from that point. If a modular fast patrol ship has scout modules, and they are removed by deck crews it reverts to its non-scout economic BPV if it is subsequently destroyed.

(G24.36) TACTICAL INTELLIGENCE: Whenever a special sensor box performs a scout function, the owning player must identify which box on which unit is performing that function. This applies whether or not tactical intelligence (D17.0) is being used.

(G25.0) COMBAT CARGO TRANSFER *(Advanced Rule)*

The general concept of moving objects from one ship to another is covered by these rules. In *Basic Set*, transferring cargo from one ship to another was handled only abstractly. These rules define this in more detail. Most transfers are made in non-combat situations (not covered by scenarios), when there is time to do things carefully. The cargo transfer rules given here assume a combat situation in which only the most important items are transferred.

The cargo transfer rules are not intended to give you extra spare fighters or T-bombs or chaff packs or anything else. The rule is intended to handle those situations when a ship was actually in the middle of transferring cargo and the enemy appeared. This is the only circumstance in which items nominally stored as cargo can be used during a scenario.

(G25.1) CARGO SPACES

Each cargo box on an SSD comprises 50 “spaces” of cargo (except as noted below). A “space” is a unit of volume and mass; it includes the packing/crating material and room for the cargo handling crews to move around in the hold.

(G25.11) CARGO CHART: Annex #7K lists the number of spaces occupied by various items in the game which players may, from time to time, have reason to move from one ship to another. Players should note that the “spaces” on a drone rack are equivalent to the “spaces” in the cargo holds, ergo, 50 one-space drones can be stored in a normal non-Orion cargo box.

(G25.12) PIRATES: The cargo boxes on an Orion Pirate warship are designed to carry expensive high-density items, not bulk cargo. For this reason, they are smaller than the boxes on other ships.

The cargo boxes on pirate-operated freighters, Q-ships, and free traders have the normal 50 space points. Those on all other pirate warship classes (including Slavers) hold only 25 space points. Regardless, cargo boxes on pirate ships are treated the same as any other cargo boxes for all other purposes. It has been assumed that pirates are only moving part of the contents of each cargo box, but are taking the high value items. Most of the cargo volume will be filled with ore, grain, or other bulk commodities, while the remainder will comprise electronic parts, reactor fuel, and luxury items.

Certain other ships (including non-Orion ships) in future products may be designated as having this type of cargo box.

(G25.13) SHUTTLES: Shuttles can transport cargo.
(G25.131) An administrative (or GAS, MSS, MLS) shuttle can carry fifteen spaces of cargo (plus its flight crew, i.e., pilots). This is reduced to five spaces if a crew unit is also carried and to zero if the shuttle is overcrowded (G9.141). An MLS can only carry eight space points of mines when rigged to lay them; it could carry more as cargo but would be unable to lay them. An MLS can only be rigged in one fashion at a time, to carry cargo (possibly including mines as cargo) or to carry fewer mines for laying (which can be transported as cargo).
(G25.132) An MRS can carry twenty spaces of cargo including its pilots and operators. This is reduced to five if a crew unit is also carried and to zero if the shuttle is overcrowded (G9.141). SWAC shuttles can carry only five spaces of cargo; this is reduced to zero if a crew unit or boarding party is also carried. An MRS can carry up to twenty spaces of mines (J8.2) but is under the same restrictions as an MLS (G25.131); in mine-laying mode, it is limited to eight cargo spaces.
(G25.133) An HTS can carry 50 spaces of cargo plus its flight crew. Reduce this by twenty spaces for each crew unit carried and to zero if the shuttle is overcrowded (G9.143).
(G25.134) While not specifically covered here, a fighter is capable of transporting individual small objects (e.g., a replacement dilithium crystal or a computer tape, but not a cloaking device). As a rule of thumb, anything you could hold in your hand, pocket, or lap while driving a car at highway speeds would be possible for a fighter pilot.

A two-seat fighter could carry four cargo spaces in the back seat, but there would be no one to operate any special systems [EW fighter (R1.F7), drone control (J4.43), etc.], and those capabilities are

lost until the fighter has returned to its carrier to have a deck crew spend one action reinstalling the systems and helping the GIB (Guy In Back) get in. This is intended for special scenario rules (i.e., items such as dilithium crystals which are a victory condition in some scenarios, spare parts, etc.). It is most definitely NOT possible to place the following items in the back seat of a two-seat fighter: drones (including half-space drones), anti-drones, fighter pods, mines, warp booster packs, crew units, deck crews, or BPs. Items carried in the back seat can only be removed while in a shuttle bay.

There are no "cargo fighters," although one way to transfer drones to another ship is to have a fighter land on it with them. Rule (J11.41) provides fighters with a limited ability to carry cargo in small pods.

(G25.135) Shuttles cannot carry other shuttles as cargo. Shuttles can only carry cargo which can be divided into units of four cargo points or less. HTS shuttles (R1.F5) have some exceptions defined in those rules (e.g., ground vehicles).

(G25.14) CARGO PFs: The cargo boxes on cargo PFs hold only 25 points of cargo.

(G25.2) CARGO TRANSFER

Cargo can be transferred by one of three methods:

(G25.21) TRANSPORTERS: Each transporter can transport ten cargo spaces per operation.

(G25.211) Transporters cannot transport an item larger than ten cargo spaces [or 2.5 spaces if explosive ordnance (G25.3)]. Thus, two transporters could not work together to transport a large mine; five could not work together to transport a shuttlecraft. Unless specifically provided in its description, two transporters cannot ever be used to move a single object of any size.

Exception: Two can transport a ground vehicle, but this is designed to be transported in two sections and requires one turn to assemble. A third transporter is required to move its crew and one BP of passengers; see (D15.82).

Other exceptions: (D10.524), (G13.421), and (G19.47).

(G25.212) Cargo can be transferred during catastrophic damage at the higher rates (D21.224); the owner decides the priority between people and cargo.

(G25.213) Andromedan satellite ships are transported by a special system which cannot be used for cargo. The Andromedans do, however, have cargo pods [(R10.18) and (R10.19)] which can be used to hold cargo and which can be transported as a complete unit, allowing the entire pod to be transported as a means of transferring cargo.

(G25.214) It is not possible to transport (or drop) cargo (or spare shuttles, reload drones, etc.) into space and have that cargo then "exist" for some purpose (e.g., damaging an ESG, later pickup, web anchor). A special scenario rule might provide a specific type of item that could be left in space for a time.

(G25.22) SHUTTLECRAFT: Each deck crew of a ship (J4.814) can load or unload up to sixteen cargo spaces per turn onto/off of a shuttlecraft.

(G25.221) One space point of cargo is loaded or unloaded every second impulse that the shuttle is on the ship. This is done during the recover/launch steps and cannot be done on the impulse during which or after which the shuttle lands or during which or before which the shuttle is launched. This applies to cargo, not to weapons available for use (such as drones on an SP).

(G25.222) Only one deck crew can load cargo on a single space shuttle on any turn. Two deck crews can load cargo onto an HTS on the same turn. Cargo cannot be loaded and unloaded during the same impulse. Shuttles in overcrowded (J1.643) or destroyed (J1.662) bays cannot have cargo loaded on them or off-loaded from them. Rule (G25.231) applies.

EXAMPLE: An administrative shuttle lands on a cruiser on Impulse #16. It loads one point of cargo on each of Impulses #18, #20, #22, and #24, then launches on Impulse #26.

(G25.23) DIRECT TRANSFER: This method requires that the two units be docked (C13.0), as in a ship docked to a base (C13.472) or two ships docked to each other (C13.953). This is done in the Marines Activity Stage (6B7) of the Sequence of Play. The transfer rates are:

CONDITION	Spaces per turn
Ship docked inside base	128
Ship docked outside base (or inside FRD)	64
Andro satellite ship inside mothership	32
Ship docked to ship	16
PF docked internally or to mech-link	4
PF docked externally to ship or base	2

This is the total transfer rate between the two units, including cargo moving from unit A to unit B and vice versa. Various conditions, which are cumulative, affect these rates.

NOTE: See (G25.3) for explosive ordnance.

(G25.231) If boarding party combat (D7.0) is taking place on either ship [in the area or adjacent to the area in which cargo is being loaded, unloaded, or moved if using (D16.0)], the rate is reduced by 50%.

(G25.232) In the case of a cargo ship (FT, Q-ship, freighter, tug, cargo pod, including Orion Free-traitors and Q-ships) docked to a base or another cargo ship in a non-combat situation, the rate is doubled. A non-combat situation is defined as one where no enemy units are within 35 hexes or are firing or guiding weapons at the base or cargo ship.

(G25.233) For any cargo moved through more than three areas on the BP diagram (D16.0), not counting the cargo hold on each end of the transfer, the cargo must be moved to an intermediate area (less than three areas away) and then moved again on the next turn.

(G25.234) Items larger than four space points cannot be transferred by this method from or to a non-cargo ship during a scenario.

(G25.235) By using the necessary accounting, cargo can be transferred when docked for less than a full turn (e.g., two spaces per impulse when externally docked to a base).

(G25.236) No power is required to move cargo by this method.

(G25.24) WOUNDED CREW UNITS are the equivalent of four cargo space points per crew unit.

(G25.25) DETECTION OF CONTENTS: The contents of a given point of cargo, whether on a ship or in a fighter cargo pod (J11.41), cannot be detected unless a special scenario rule, or some later published rule, defines otherwise.

(G25.3) EXPLOSIVE ORDNANCE

Certain items are classified as explosive ordnance and require extra care in their transfer. These items include ammunition (such as drones, plasma-D canisters, or ADD rounds) and mines. Because of the additional safeguards required, these items are moved at 1/4 of the normal rates. Transferred ordnance is placed in storage for the remainder of the turn and all of the next turn; it can be moved to or loaded in the weapon/rack from storage on the turn after that, but can't be placed there directly by the transfer procedures. [Non-ordnance cargo has no built-in delay before use.]

This rule cannot be used to exceed the number of T-bombs available to a given unit at any time during the scenario, e.g., no non-X size class three unit can have more than four T-bombs (and associated dummies) available for use on any given turn. This rule does not allow units with cargo to purchase NSMs and lay them from the shuttle bay or an Andromedan hatch.

EXAMPLE: A Federation NVL is docked to a battle station. Cargo up to 64 points (two points per impulse) can be transferred between them. During Impulses #1 through #6 of Turn #3, the starbase transfers three fighter warp booster packs to the NVL. (Each pack is four cargo points and requires two impulses to move.) Then the starbase wishes to transfer drones to the NVL. These are explosive ordnance transferred at 1/4 of the normal rate, or 1/2 space per impulse. During Impulse #7, one type-VI drone is transferred. During Impulses #8 and #9, one (total) type-I drone is transferred.

During Impulse #5, a Federation FFG two hexes away uses a transporter to transfer one T-bomb to the NVL. Since a transporter can move ten points per operation (2.5 points of explosive ordnance) and a T-bomb is two points, this is possible. Both the T-bomb and the three drones are placed in the NVL's storage areas and remain there for the remainder of the turn and for (at least) the entire subsequent turn. The drones could be loaded on ready racks and the T-bomb dropped or transported on Turn #5 (and no sooner).

NOTE: Players do not have the option of making a faster transfer in exchange for a die roll that could result in an explosion. You might think it is worth the risk, but your crew does not agree.

(G25.4) BASE CARGO

Base Commanders can fill 50% of the cargo capacity of the base, not including Augmentation Modules or pods, with supplies at 50% of the normal BPV.

(G25.41) STORAGE: These supplies may be brought out of storage during a scenario using the supply rules. No system can be brought out of storage, or even begin the (G25.3) procedure unless a space in the Base's normal load out is available. For example, a T-bomb in cargo could not be moved to storage to be prepared for use unless the base has already used a T-bomb. A drone (or plasma-D) could not be moved from cargo to storage unless the base has already launched one, including a fighter or shuttle launching one. See (J1.422) for spare shuttles in cargo storage.

(NOTE: If the proposed "Shuttle Deck" rule is used players might consider buying a few NSMs for MLS shuttles.)

(G25.42) FIGHTERS or shuttles that launch carrying ordnance do not count as having launched the ordnance until they actually do launch it, are crippled (J1.332), or are destroyed. Note that a scatter pack must release its sub-munitions or be destroyed (FD7.48) to count as the ordnance being lost.

(G25.43) SPECIAL DRONES may be purchased as cargo, but will not come with free reloads and must be purchased within the percentages for that empire as if the base was a NON-Carrier, e.g., to get a 10% availability drone you must purchase nine other standard drones etc. Drones for the Base's fighters and PFs (if any) will be purchased normally for its hangar and PF augmentation modules.

(G26.0) THOLIAN WEB ANCHOR BUOY *(Advanced Rule)*

Tholian ships began carrying this device in Y173. The web anchor buoy is a specialized device (the size of a shuttlecraft) capable of acting as an anchor point for a web. The ship laying the web could use it as one end of a linear web or to hold the end of a circular web until the ship could circle back to it.

Web anchor buoys are restricted Tholian technology (U7.22).

(G26.1) ASSIGNMENT

(G26.10) CARRIAGE: The web anchor buoy is carried in the shuttle bay, where it takes up one shuttle box. Like any "shuttle," a web anchor buoy could be carried (but not powered) on a mech-link (PF or fighter), which it fully occupies.

(G26.11) STATUS: A web anchor buoy cannot carry passengers, crew, cargo, be boarded, or perform any other functions of a shuttlecraft. It can only be used to anchor a web. It remains functional, even if damaged, until it is destroyed.

(G26.111) A web anchor buoy in the shuttle bay is destroyed if the shuttle box it occupies is destroyed by damage (D4.325) or if a shuttle lands on top of it (J1.65).

(G26.112) A web anchor buoy on the map is destroyed by sixteen points of damage from any source; see (G26.33).

(G26.12) AVAILABILITY: Any ship that carries more than one shuttle can replace one of its shuttles with a web anchor buoy as a Commander's Option (S3.2). Ships that only have one shuttle (such as a PC) can only carry web anchor buoys if they are designated as doing so by the scenario or are assigned to carry web anchor buoys in a player-generated campaign. The cost of the device is ten points; see Annex #6. Note, however, the two points received for the removed shuttlecraft makes the net cost eight.

(G26.13) FIGHTERS: Web anchor buoys cannot replace fighters and cannot be carried in external bays. They will not explode in a chain reaction (D12.0). They could replace stored shuttles.

(G26.2) ENERGY REQUIREMENT

(G26.21) CHARGING: Before use, the web anchor buoy must be charged with two points of power (from any source) on each of two consecutive turns.

(G26.22) RESERVE POWER: A ship can begin charging a web anchor buoy with reserve power, but cannot launch the anchor buoy less than 32 impulses from the point at which charging was begun.

(G26.23) HOLDING: Once charged, it can be held ready for use at a cost of one point of power per turn. A web anchor buoy could count as a "shuttle prepared for special mission" under (S4.1).

(G26.3) OPERATION

(G26.30) LAYING: To use the web anchor buoy, the ship generates a web in that hex and (in the same impulse) launches the web anchor buoy. The ship can thereafter move away from that hex, stretching web from the anchor buoy to another point, or if globular come back to the anchor buoy. The buoy becomes active in the Ship Systems Function Stage (6B4) and counts against the shuttle launch rate (J1.50).

(G26.31) TRANSFERRING ANCHOR STATUS: A ship serving as an anchor point (G10.13) which has a web anchor buoy on board can drop the anchor buoy and transfer the status as anchor point for the web to that anchor buoy, then disconnect itself from the web under the provisions of (G10.116).

(G26.32) ADDING AN ANCHOR BUOY TO A WEB: A ship could move into an existing web and drop a web anchor buoy to act as an anchor point, just as any ship could become a web anchor point (G10.116). If a shuttle (or another ship) is laying a web connected to the ship carrying an anchor buoy, the anchor buoy can be dropped and the ship can disconnect itself from the web. Web anchor buoys cannot be added to a free-standing web (E12.222).

(G26.33) ON-MAP STATUS: While on the map, the web anchor buoy does not move unless towed by a tractor beam (G7.0) or through the effects of a black hole (G10.75) and then only if not currently anchoring a web. It is destroyed by the sixteenth damage point and will be destroyed by (G7.54) if towed at more than sixteen hexes effective speed. It is recovered by (G26.351).

(G26.331) The web anchor buoy is considered to have the effect of four points of built-in ECM operating (D6.3142); it cannot receive loaned EW points (D6.3144). This benefit is in place of any other benefits (small targets, etc.). It does receive ECM benefits from terrain (D6.3143). Note that it would benefit if the firing unit was being jammed under offensive EW (D6.3145).

(G26.332) A web anchor buoy is damaged by anti-drones and type-VI drones as a shuttle would be (FD2.54). It can be fired at while in a web just as any other unit in a web hex can be (G10.61).

(G26.34) BOARDING: Web anchor buoys cannot be boarded under (D7.6).

(G26.35) RECOVERY: The buoy cannot be recovered while it has anchor point status.

(G26.351) After the web has deteriorated to zero strength, the web anchor buoy can be recovered [shuttlecraft procedure in (J1.621)] and reused. The web anchor buoy cannot be recovered until the web has deteriorated to zero strength (G10.4). The web anchor buoy can only be recovered if there is an empty mech-link or space in the shuttle bay of the recovering ship at that time; overcrowding (J1.64) cannot be used.

(G26.352) The Tholians can recover the web anchor buoy at any time after moving into the hex and assuming anchor status from the buoy (G10.116). Once this is done, it cannot pass anchor status back to the web anchor buoy, which becomes inactive. The web anchor buoy can then be recovered (G26.351) and can be recharged (G26.2) for later use.
(G26.353) Recovered web anchor buoys can be repaired by Tholians as shuttles under (D9.76), (G17.12), or (J4.818). The procedures under (D14.0) cannot be used to repair a web anchor buoy. Tholian legendary chief engineers can repair web anchor buoys under (G22.45); however, see (G22.46).

(G26.36) WEB HEXES ONLY: A charged web anchor buoy can only be laid in a web hex.
(G26.361) Charged web anchor buoys cannot be dropped in empty hexes for possible use later, and those anchor buoys recovered by (G26.351) cannot be reused unless taken aboard a ship and recharged.
(G26.362) Web anchor buoys can be dropped in any hex the ship could legally enter (if charged, they lose their charge immediately). The only reason to do this would be to allow another ship to pick up the web anchor buoy. The ship which recovers it must charge it to use it, and only Tholian ships can charge the web anchor buoy.

(G27.0) ROMULAN CLOAKED DECOY *(Commander's Level)*

The cloaked decoy is a specialized shuttle. Launched from a cloaked ship, it simulates the ship with such accuracy that the enemy forces cannot distinguish it from the real ship. The Romulans first used this device in combat in Y178. It was used only in rare and unusual cases when the mission was of critical importance. It was never a general-issue item.

Cloaked decoys are expensive, and their use is an art. You should study the rules, evaluate the ship that will carry it, and plan the use of a decoy carefully *before* sitting down to play, or you will not have time to plan the best use of the device. Remember that instructions (including the speed changes and EW fluctuations required to make the deception work) cannot be changed after launch.

(G27.1) DESCRIPTION

(G27.11) DEFINITION: The cloaked decoy is a special shuttlecraft designed to simulate the specific ship that carries it. It occupies one shuttle box. It carries no crew (J2.213), passengers (J2.211), or cargo (G25.13); cannot be boarded (D7.6); and cannot be used for any function except as a decoy. It is built on a modified MRS shuttle frame (J8.0), has a speed of eight, and is destroyed by the tenth damage point; exception: (G27.13). (The cloaked decoy uses an MRS frame, but is not under any MRS deployment restrictions.) Cloaked decoys were improved in Y180, see (J17.0).

(G27.12) TRANSFER: If transferred to another ship (even of the same class), it cannot be used unless returned to a starbase for reconfiguration (which takes several weeks).

(G27.13) DECOYS FOR SIZE-2 SHIPS: Cloaked decoys for size class-2 ships are double-sized shuttles requiring two shuttle boxes. [This uses a modified HTS (R1.F5) frame with MRS engines. It has a speed of eight like an MRS but is destroyed by the twelfth damage point like an HTS.] This type of decoy cannot be carried or used by units smaller than size class 2. Decoys for size-2 ships were improved in Y180, see (J17.0).

(G27.14) BASES cannot use cloaked decoys.

(G27.15) BPV: The BPV of the cloaked decoy is equal to 15% of the economic BPV of the ship (after all modifications), with a minimum cost of twenty points. As the decoy will probably be destroyed, this will cost the Romulan player victory points. Cloaked decoys are purchased as part of the basic force level rather than as a commander's option. They may be purchased in virtually any scenario in excess of the limit on commander's options, but will count against the overall force total and/or under the victory conditions under (S2.20) Step B. See (G27.16). Improved cloaked decoys (J17.0) are purchased at two BPV points above the 15% economic value, i.e., calculate the 15% purchase price and then add two additional BPV for the total cost to purchase a cloaked decoy of the advanced type; note advanced decoys are not available prior to Y180.

(G27.16) LIMITATIONS: No ship can carry two (or more) decoys. (Exception: Some single Romulan ships attempting to run the Tholian blockade might have two, but this can ONLY occur if the ship is by itself in the Tholian-Federation Neutral Zone.) No more than one decoy can be used in a scenario where there are one-to-four Romulan ships. No more than two decoys can be used in a scenario where there are five or more Romulan ships. No more than one size-2 (G27.13) decoy can be used in any scenario. See also (G27.7).

(G27.2) ACTIVATION

(G27.21) ENERGY: The device must be energized by three units of power (from any source) on each of two consecutive turns, the second of which can be the turn of launch. The cloaked decoy can be armed with reserve power under the same procedures and limitations as a wild weasel in (J3.12).

(G27.22) HOLDING: It can be held charged in the shuttle bay for up to fifteen turns (after charging is complete) for three units of power each turn which must be allocated during Energy Allocation; see (H7.531). If power is not allocated after activation, the decoy loses its charge and would have to be recharged before it could be used. If not launched within fifteen turns, power cannot be applied (nor can it be launched) on the sixteenth turn; treat it as if power had not been applied to hold it.

(G27.3) OPERATIONS

The cloaked decoy is launched in the same manner as any other shuttlecraft, but does not expose the ship under (G13.41). It must be launched while the ship is cloaked and while no enemy unit has a lock-on to the cloaked ship, otherwise it is instantly revealed.

NOTE: None of the pre-recorded instructions below can be changed after the decoy is launched.

(G27.31) MOVEMENT PLOT: At the time of launch, the Romulan player must record the movement plot of the decoy for the following 128 impulses. The movement plot must be legal for both an MRS shuttle and the ship it is simulating. The cloaked decoy moves when a ship at its speed is scheduled to move under (C1.313), not when shuttles move, until it is detected as a decoy under (G27.5). This is a necessary part of the deception process.

(G27.32) SPEED: The speed is set at the time of launch at any speed up to eight hexes per turn (or sixteen with booster packs). This speed can be changed, but the changes must be plotted at launch. If the decoy makes a turn that exceeds the Turn Mode of the ship (or the ship makes an HET, which the decoy cannot do), the deception will be revealed (although the decoy will continue its programmed course).

(G27.33) SELF-DESTRUCT: Most importantly, the Romulan player must record on paper the delay on the decoy's self-destruction device, which can be set for no less than sixteen impulses and no more than 128 impulses. (Record the turn and impulse of the explosion.) Unless deactivated [(G27.63), (G27.64)], the decoy will explode in the launch step of the Shuttle and PF Functions Stage (6B8) of the specified impulse. This is required for security reasons; see (G27.73).

(G27.34) PRE-SCENARIO LAUNCH is not allowed (S4.14) unless specified in the scenario rules.

If specified by the scenario, the decoy can be placed within four hexes of the ship and is assumed to have used eight impulses of its endurance. In this case, the opposing player will know that one is a decoy if he had (or reasonably could have had) a line of sight at the time of launch, but not which. Pre-scenario launch is only possible at WS- III.

(G27.35) OTHER CASES: In any case not defined, the rules for operation of a shuttlecraft apply to the cloaked decoy.

EXAMPLES: A regular (small) decoy would be destroyed if the shuttle box it is in is destroyed (J1.412) and crippled by the first shuttle to crash land on top of it (J1.65).

(G27.4) EFFECT OF THE DECOY

The opposing players are (at first) unable to distinguish between the decoy and the ship it is simulating.

(G27.41) DECOY, STANDARD CLOAK: If using the standard cloak rules, the Romulan player obtains a second counter for the ship class he is using. He then records, on paper, which of the counters represents the ship and which represents the decoy.

(G27.42) DECOY, HIDDEN CLOAK: If using hidden movement (G13.61), the Romulan player responds to the questions for both the ship and the decoy, referring to them as "target A" and "target B" (or whatever), having recorded previously which is the ship and which is the decoy.

(G27.43) MINES AND TERRAIN: Because of its unique status, various damage rules are applied to the decoy in special ways.
(G27.431) Mines treat the decoy as the ship it is simulating.
(G27.432) Asteroids, dust clouds, rings, and other terrain treat the decoy as a shuttlecraft. For example, the decoy would be instantly destroyed if launched inside a nebula (P6.4). The decoy does NOT receive the "nimble bonus" unless the ship it is simulating is nimble.

(G27.44) ECM: The decoy is treated as if it has the maximum possible ECM for the ship it is simulating, or a lesser amount set in the launch instructions. This ECM level can be set (in the launch instructions) to change no more than once every eight impulses. (Care must be taken for these changes not to exceed what the ship is capable of.) This is a special adaptation of the normal EW capabilities of an MRS shuttle in that the decoy's electronics are loaning to itself and it is all ECM. This is not possible for normal MRS shuttles which are configured to loan EW to their home ships or a fighter squadron.

(G27.45) DAMAGE FROM WEAPONS treat the decoy as a shuttlecraft. Obviously, this damage allocation must be done secretly until the deception is revealed. See (G27.61).
(G27.451) The effects of (E1.7) will only apply if the true range is great enough to cause them. The modifier is applied to die rolls on the (G13.37) table in an exception to (G13.372). The decoy player will have to account for them and keep a written record of the die rolls for hits. The player firing at the decoy who misses as a result of the small target modifier's ECM shift will be told that the weapons struck the target.
(G27.452) When the deception is revealed under (G27.5), the Romulan player and his opponent must both examine this record to ensure that all damage was accurately assessed and recorded. If damage to the decoy was not properly assessed, the decoy itself is immediately destroyed and any damage in excess to that actually applied to the decoy is immediately applied as internal damage to the ship which launched the decoy by the non-decoy player or side. The non-decoy player does not roll for this damage on the DAC, but selects which specific non-sensor, non-scanner, non-damage control, and non-excess damage boxes on the offending ship he wishes destroyed up to the limit.

(G27.5) EXPOSING THE DECOY

The deception can be exposed in several ways. Note, however, that if the deception is revealed the decoy is not removed from play until it is captured (G27.63), recovered (G27.64), or destroyed [(G27.61) or (G27.62)].

(G27.51) EXPLOSION: If either the decoy or the launching ship is destroyed, it will be obvious from the size of the explosion if it was the decoy.

(G27.52) LOCK-ON: Obtaining a lock-on (G13.333) to either the ship or the decoy will immediately reveal if the object locked-onto is the ship or the decoy. This will be revealed even if the lock-on is not retained.

(G27.53) VOIDED CLOAK: If the ship voids its cloaking device by some method, such as (G13.4) or (G13.52), or performs some act which the decoy is incapable of (such as moving thirteen when warp packs are not available or performing an HET), the deception is revealed, although the decoy will continue its plotted course.

(G27.54) MONSTERS that ignore cloaking devices detect the deception instantly (G13.53).

(G27.6) THE FATE OF THE DECOY

Once launched, there are three possible fates for the decoy. It may be destroyed (by its own self-destruct device or something else), captured, or recovered.

(G27.61) DESTRUCTION: If the decoy is fired at, damage is scored as if on a shuttlecraft (G27.45), except that it cannot be crippled. (Use all of the procedures for firing at a cloaked ship, e.g., double range, add five, EW, Fire Adjustment Chart, cloak voided by various means, etc.) After accumulating the appropriate number of damage points (ten, or five if booster packs are installed; twelve or six for a size-2 decoy) the decoy is destroyed. The explosion does not produce collateral damage or any significant explosive force, but does reveal that the unit was a decoy. A friendly decoy may be fired on without friendly fire (D1.5) penalties.

(G27.62) SELF-DESTRUCTION: On the designated impulse (G27.33), the self-destruct mechanism explodes. At this point, the written record is exposed to confirm the flight path and destruct time. The self-destruction of the cloaked decoy causes no damage at all unless it is inside (G27.633) or being pulled inside (G27.632) a shuttle bay at that time.

(G27.63) CAPTURE: To capture a decoy, the opposing forces must first obtain a lock-on (G13.333) to the decoy (incidentally exposing the deception), attach a tractor to the decoy (G7.991), and then pull it into a shuttle bay (J1.620), provided (J1.62) is not violated. This cannot be done if the bay will be overcrowded (J1.64) by landing the decoy unless room is made by launching one (or more) of the recovering ship's shuttles. If the decoy is crash landed (J1.65), it explodes immediately as per (G27.633). On the impulse it is pulled inside, the capturing player rolls two dice. The total result is the number of impulses that are required to deactivate the self-destruct mechanism.
(G27.631) If the decoy explodes before it is pulled inside, the Romulan player announces the fact and reveals his records for proof.
(G27.632) If the decoy explodes on the impulse it is to be pulled inside, it is treated as a fully-charged (eighteen-point) suicide shuttle (J2.22) that struck the appropriate shield of the recovering ship.
(G27.633) If the explosion is within the period when the enemy is trying to defuse it (including the last impulse), it is treated as a fully charged suicide shuttle (J2.2211). The eighteen damage points are resolved as per (J2.228). If the entire shuttle bay is not destroyed, the explosion may cause a chain reaction (D12.0).
(G27.634) If the explosion is plotted to occur after the two-to-twelve impulse period when the enemy is trying to defuse it, the enemy has successfully defused and captured the decoy.

(G27.635) Subtract two from the number of impulses for deactivation for a legendary captain (G22.23), engineer (G22.47), or science officer (G22.36) who is in that shuttle bay. (This could produce immediate deactivation with no chance of an explosion.) The officer must remain in the bay and will be killed if the decoy explodes. Officers are not cumulative.
(G27.636) A cloaked decoy cannot be disarmed in a destroyed shuttle box (J1.66).

(G27.64) RECOVERY: Any uncloaked Romulan ship can recover the decoy by the same procedure as in (G27.63), except that they use (J1.621) for the recovery and it takes only one impulse to defuse the self-destruct mechanism (and is assumed to have a lock-on). See (J1.64), (J1.65), and (J1.66) however. The decoy explodes if crash-landed.

(G27.641) Only the original Romulan ship the decoy was assigned to can charge it or gain any benefit from its use in a given scenario, see (G27.12).
(G27.642) Recovered cloaked decoys can be repaired by Romulans as shuttles under (D9.76), (G17.12), or (J4.818). The procedures under (D14.0) cannot be used to repair a cloaked decoy. Romulan legendary chief engineers can repair cloaked decoys under (G22.45).

(G27.7) CAMPAIGN CONDITIONS

(G27.71) PRODUCTION: The Romulans can produce only one large (G27.13) and two small (G27.11) cloaked decoys in any six-month period beginning with the first half of Y177. Each decoy is recorded separately and can be used during the campaign turn after construction is completed. The decoy must be designated at the time of construction as to the specific class, type, and variant which it is designed to simulate. The devices can be stockpiled for later use; they do not have to be used immediately after construction. In such a campaign, the restrictions of (G27.16) could be waived by the Romulan commander.

(G27.72) TRANSFER: The Romulans cannot transfer the technology for this device. No other empire (including Orions) can build or use it.

(G27.73) EFFECT OF CAPTURE: The capture of a cloaked decoy means that the empire capturing it can instantly detect all future cloaked decoys. The capturing unit, or the unit to which the decoy was transferred to by a combination of (G7.85) and (J1.621), must either successfully disengage or survive the scenario with the decoy intact in its shuttle bay. This includes a destroyed shuttle bay with an intact cloaked decoy in it (J1.66). Intact is defined as a cloaked decoy with at least one point of damage remaining. Any empire with this knowledge can give it to any other empire under the conditions of (U7.125).

(G28.0) BARRACKS AND COMMANDO SHIPS

(G28.1) SSD

Barracks are a special type of hull used to quarter troops, such as marine landing or invasion forces. This is marked BAR on the SSD of Commando ships.

(G28.2) DESTRUCTION

Barracks can be destroyed by F Hull or A Hull damage points. If all normal hull boxes of one (or both) type(s) are destroyed but undestroyed barracks boxes remain, hull hits must be scored on barracks. See Annex #7E.

(G28.3) MARINES IN BARRACKS

(G28.31) CAPACITY: Each barracks (BAR) box on the SSD can hold up to ten boarding parties.

(G28.32) ASSIGNMENT: All boarding parties (a.k.a. marine squads) on board a ship with barracks are assumed to be in the barracks unless assigned as guards (D7.83). (Reminder: Only one BP can guard a given box.) The owning player can divide the non-guards among the barracks spaces as he sees fit, up to the limit of ten per barracks box. Any surplus marine squads are considered to be distributed around the ship as they would be on a ship with no barracks.

(G28.33) CASUALTIES: Any boarding parties in a destroyed barracks box are destroyed. Boarding parties in a barracks box are not subject to casualties under (G9.2) and (D7.21), and hits on barracks boxes do not count for these purposes.

(G28.34) AVAILABILITY: Any of the non-guard boarding parties can be used for boarding enemy ships, defending their own ship, landing on planets, or for hit-and-run raids; this will require adjusting the records.
(G28.341) The barracks areas are generally quite close to the ship's transporters and shuttle bays making the boarding parties in the barracks immediately available for use in these missions. The decision to put boarding parties on a shuttle is made at the instant of launch.
(G28.342) Once they leave the barracks area to repel a boarding attempt or try to capture an enemy ship, they are killed by the normal rules in (D7.2) and (G9.2). If an enemy boarding attempt is repelled, the boarding parties must return to the barracks area if any such boxes remain, and once more any excess BPs may be deployed as general boarding parties.
(G28.343) For hit-and-run purposes, each barracks box counts as guarded (D7.83) if it is occupied by at least one boarding party.

(G29.0) POSITIONAL STABILIZERS

Bases use positional stabilizers to stabilize their position in space.

(G29.1) USE OF POSITIONAL STABILIZERS

Bases equipped with positional stabilizers always have them active; they cannot be deactivated during a scenario. Note that some special scenario rules may define that an Andromedan satellite base or a BLM does not have its stabilizers active because it has just been assembled or is in the process of being disassembled. These rules will be ignored in those cases. An abandoned base would self-destruct once its stabilizers failed (something that would take years if left to itself) and cannot appear in a scenario without them active.

(G29.11) ALWAYS PRESENT: No base can ever appear in a scenario without its stabilizers active unless the unit description specifically allows this possibility or the scenario rules specifically call for it.

(G29.12) ACTIVATION: The activation of positional stabilizers for a new base (perhaps a BLM or a small ground base) cannot be completed (or even started) during a scenario. It takes considerable time for stabilizers to be activated; if it is possible to activate them between scenarios of a campaign or mini-campaign, this will be defined in that campaign.

(G29.13) INSTALLATION: Positional stabilizers are installed only on certain units (i.e., most bases). Positional stabilizers cannot be installed on any other units. All units with positional stabilizers are listed as having them in their unit descriptions. For clarity, some units which do not have them are noted as such, but the lack of any mention of stabilizers in a ship description indicates that the unit does not have them.

(G29.14) ENERGY: Once active, positional stabilizers require no power during a scenario. (Their actual power demand is trivial.) Warp power is required to operate the stabilizers, which is why cloaked bases (which would have a lower cloak cost without it) are required to have it, but this power need not be applied during the course of a scenario (or even for a considerable time thereafter).

(G29.15) DAMAGE: Positional stabilizers are not shown on the SSD and cannot be damaged or destroyed in any manner (including by boarding parties).

(G29.2) EFFECT OF POSITIONAL STABILIZERS

(G29.21) TRACTOR BEAMS: A unit with active stabilizers cannot be moved or towed by tractor beam; see (G7.252).
(G29.211) A base with active positional stabilizers is immune from the effects of (G7.9); see (G7.254).
(G29.212) A moving ship can tractor a unit with active stabilizers; see (G7.251) to resolve its resulting speed.

(G29.22) DISPLACEMENT: A unit with active stabilizers cannot be displaced; see (G18.72).

(G29.23) STASIS FIELDS: A unit with active stabilizers cannot be placed in stasis; see (G16.61).

(G29.24) TRANSPORTERS: A unit with active stabilizers cannot be moved by transporters (G19.41). (Within the present game, only the Andromedans could move something large enough to have stabilizers installed.)
(G29.25) MOVEMENT: Units with active stabilizers cannot move; exception, they may be in orbit (P8.0). Bases with or without active stabilizers can rotate (C3.7).

(G29.26) PHASER-IV: Only units with active stabilizers can fire phaser-4s. Phaser-4s on units without active stabilizers can be fired as phaser-1s using (E2.25).
(G29.261) This does not in any way mean that phaser-1s are phaser-4s without stabilization, or that phaser-1s could be improved to phaser-4s with stabilization. They are entirely different weapons.
(G29.262) Certain empires (e.g., Orions) do not have phaser-4s. This rule does not indicate in any way that Orion bases do not have stabilizers or that there is anything that the Orions could do to obtain phaser-4s.
(G29.263) Some monsters, such as space dragons (SM7.0), and very large ships have weapons defined in their special rules that function like phaser-4s. This in no way implies that phaser-4s can be used without stabilization as monsters are always special cases.

(G29.27) BLACK HOLES: A unit with active stabilizers will not be moved by a black hole (P4.13) if the stabilizers are active. Stabilizers cannot be activated within 200 hexes of a black hole, so this can only happen if the black hole is created or appears during a scenario which started with a base (with active stabilizers) in place. This occurs in *SFB* only as a special rule in a very few scenarios.

(G29.28) GROUND BASES: Because they are fixed into a large mass, operational ground bases are treated in all respects as if they have active positional stabilizers. See also (G7.256). For example, they cannot be towed by a tractor beam (G29.21), displaced (P2.744) [(G29.22)], or raised from a planet (P2.441).
(G29.281) Ground bases which are not operational may or may not be treated as having active positional stabilizers, depending upon their individual descriptions (G29.13).
(G29.282) There is a partial exception to this in the case of operational ground bases (or ground bases with active positional stabilizers) deployed on moving astronomical bodies, such as the "meteor" in (SH3.0) or as suggested for large asteroids in (P3.434); in such cases (which will only be defined in specific scenarios), the bases will move with the body upon which they are fixed, but will in all other respects be treated as having active stabilizers.

(G30.0) INACTIVE SYSTEMS

In some situations, units may have certain of their systems "inactive;" that is, the systems are shut down for maintenance, calibration, or repair. In many cases, this procedure is used for an incomplete or newly built ship, and the systems in question have never been turned on or calibrated. Inactive systems are not destroyed; they simply do not work.

(G30.1) DEFINITION

Inactive systems will be designated by the scenario. Scenario (SG11.0) uses this rule.

Note that "inactive systems" in (G30.0) and "inactive ships" in (D18.0) are not the same thing.

(G30.2) STATUS

(G30.21) USE: Inactive systems cannot be used. Shuttles may only land in inactive shuttle boxes by "crashing aboard" (J1.612). Shuttles which crash aboard are active shuttles, and can later take off (if not destroyed).

(G30.22) DAMAGE: Inactive systems can be destroyed in combat, by hit-and-run raids, and other sources of damage, such as pulsars and asteroid collisions, etc. Damage is resolved against inactive systems normally by the Damage Allocation Chart, i.e., a ship with disruptors that are inactive under these rules would lose one on a "torpedo" damage point (unless it had something else on which a "torpedo" hit could be resolved and chose to do so).

(G30.23) REPAIR: If destroyed, inactive systems can be repaired by any method of damage control. The act of repairing them also activates them (G30.3).

(G30.24) TUGS AND PODS: These rules cannot be used to activate a pod carried as cargo under (G14.13).

(G30.3) ACTIVATION OF INACTIVE SYSTEMS

(G30.31) ACTIVATION: Inactive systems are activated using the various repair and damage control procedures, i.e., the act of "repairing" an inactive system box makes it active. This can include repair systems (G17.0), emergency damage repair under (D14.0), and continuous damage repair under (D9.7). It is possible to use (G17.5) to "hastily activate" a system at a lower level of effectiveness. It could later be brought to full effectiveness, but only by taking it off line for an entire turn (at least) and expending the full number of repair points to activate it from scratch. Inactive (undestroyed) systems being activated by the repair process do not count against the limit on systems that can be repaired by continuous damage control (D9.76). All "repairs" of inactive systems are "permanent" repairs. Inactive plasma torpedo launchers will not have PPTs available when activated.

(G30.32) LOADING: Inactive systems that must be loaded are not loaded at the time of activation. This means that a drone rack, plasma rack, or ADD rack will not have any ammunition (drones, plasma-Ds, plasma-Ks, ADDs) loaded in it when it is activated. Once it is activated, it may be loaded with the appropriate ammunition type under normal rules. This also applies to ready racks in a shuttle bay, e.g., there will be no drones (or other weapons or pods) on a ready rack until it is activated, at which time drones and etc. may be loaded onto it in preparation for loading them onto a fighter. Note, the ammunition (including fighter pods) for such ready racks are available in the ship's drone/carrier storage facilities. It simply cannot be loaded into the system until the system has been activated. No system that normally stores power (fighter ready racks, batteries, phaser capacitors, etc.) will hold any power until it has been activated.

(G31.0) TEMPORAL ELEVATOR

The Temporal Elevator (TE) is used by Andromedan bases to provide protection from attack, particularly by seeking weapons. The temporal elevator creates a time rift (or perhaps a spatial distortion, no one is certain) which causes seeking weapons to spend several impulses at a fixed distance from the base, making it easier for the base to destroy the weapon. The Temporal Rift, caused by the temporal elevator, also affects the "true range" for all systems, affecting virtually everything in the game.

(G31.1) INSTALLATION AND OPERATION

(G31.11) INSTALLATION: The temporal elevator is not shown on the SSD, although each Andromedan base has one. (The battle station and base station, even though made up of components, have only one temporal elevator.)
(G31.111) The temporal elevator cannot be destroyed by weapons damage or hit-and-run raids.
(G31.112) To use the temporal elevator, the base must have positional stabilizers (G29.0) and they must be active and locked.
(G31.113) Bases on planets and moons, or in orbit (P8.0), cannot use the temporal elevator and do not have it installed.
(G31.114) Bases on large asteroids (P3.4) cannot use the temporal elevator because the mass of the asteroid is too much to elevate.
(G31.115) Andromedan bases equipped with temporal elevators (i.e., all of them except ground bases and those in orbit) cannot be closer than thirteen hexes from each other.

(G31.12) TECHNOLOGY: The temporal elevator is Andromedan technology and cannot be copied, purchased, or used by other empires, even when in possession of captured examples.

(G31.13) ENERGY COST OF OPERATION: To activate the temporal elevator, it must have been charged with a certain number of units of warp energy (G31.133) on the turn of use. This can be reserve warp power at or before the point at which ascent begins.

(G31.131) Energy cannot be held in the temporal elevator for possible future use. If the temporal elevator was armed but not used, the energy is lost. If this was reserve warp power, the power does not return to the batteries [an exception to (D10.74)] but is lost.

(G31.132) If the device is operating at the end of a turn, it must be allocated an additional number of points of warp energy (equal to the original arming) per turn to continue operating.

(G31.1321) If this energy is not allocated [or if for any reason the device stops functioning, e.g., (D22.0)], the base will immediately begin descending at the "uncontrolled descent" rate of one level per impulse (G31.2221). Once this involuntary descent begins, no more power can be applied to the temporal elevator until the Energy Allocation Phase after the base reaches Level Zero. Reserve power cannot be used to halt or reverse this involuntary descent.

(G31.1322) A base may voluntarily turn off the TE at any point in the turn and begin a rapid involuntary descent, which cannot be stopped.

(G31.133) The energy cost for operating the TE is different for each base, as is shown in the following chart:

ENERGY COST OF OPERATING TEMPORAL ELEVATOR

BASE	SAT B	BS	BATS	SB
UNIT	Size 4	Size 3	Size 2	Size 1
ENERGY	4	6	8	16

The cost of elevation is increased for externally-docked units based on their size class. For example, a BATS with an externally docked Klingon F5 would pay twelve points (8+4). Units of size class 5 and smaller do not increase elevation cost.

(G31.14) OPERATIONS CYCLE: If the base descends to Level Zero, the temporal elevator is discharged and must be recharged before it can be used again. Arming cannot be started during that same turn with reserve or allocated power. This prevents a base from making multiple descents to zero or ascents from zero in a single turn.

(G31.15) LEVELS: The temporal elevator works by creating a time rift (G31.21). The extent of this rift is expressed in levels, each representing one additional hex of distance to cross. For example, a plasma torpedo approaching a base with a temporal elevator operating at Level 5 would have to move an additional five hexes after entering the base's hex before actually impacting on the base. Units at Level Zero are not "in" the elevator for any purpose.

One way to understand the operation of the temporal elevator is to imagine the base being moved one hex "up" above the map for each level. Seeking weapons would thus enter the hex of the base and then have to climb until they reach the base. This analogy is not entirely accurate, however, in that the firing arcs used to determine which of the base's weapons can engage the seeking weapon do not change from the initial determination. (The base is not really moving up; it is actually moving farther away from all six hex sides simultaneously. This concept, however, is more difficult to grasp.)

(G31.151) When the temporal elevator is first activated, the base is moved to Level 1. Thereafter, the base can move up or down one level at a time. There must be a minimum of four impulses between any given change of levels. For example, the temporal elevator is activated on Impulse #17, moving the base to Level 1. On Impulse #21, the base goes to Level 2. The base could go to Level 3 on Impulse #25, but for some tactical reason, delays this shift until Impulse #28. It could move to Level 4 (or drop back to Level 2) on Impulse #32.

(G31.152) Operation of the temporal elevator (including initial activation and subsequent changes in level) is conducted in Stage 6A2 Voluntary Movement, immediately before the movement of ships and seeking weapons.

(C1.313) ORDER OF PRECEDENCE: The following chart shows the correct order in which to move units which are moving in the same impulse. Units perform HETs during the step where they move.

1. Monsters move.
1A. Change in Temporal Elevation (G31.152) except seeking weapons.
2. Ships move.
3. Nimble ships move (C11.0).
4. Fighters and shuttles (including those used as seeking weapons) move.
5. Seeking weapons move *or change temporal levels.*
6. Bases rotate (C3.7).
7. Ships make Tactical Maneuvers (C5.0).
8. Nimble ships make tactical maneuvers.
9. Fighters make Tactical Maneuvers. Non-fighter shuttles cannot Tactical Maneuver; see (C5.43).

(G31.153) The current level of the base itself is recorded on a play aid chart provided and is known to all units. The sample chart below is filled out for the example in (G31.151).

TEMPORAL ELEVATOR LEVEL CHANGE RECORD

CURRENT LEVEL	TIME OF CHANGE		NEW LEVEL
	TURN	IMPULSE	
0	*6*	*17*	*1*
1	*6*	*21*	*2*
2	*6*	*28*	*3*
3	*6*	*32*	*4 (or 2?)*

(G31.154) The highest possible TE level is 9. Units cannot be elevated to higher levels. A base at Level 1 or higher can, however, transport objects to levels in the TE higher than itself (but still not higher than nine), perhaps to give a falling T-bomb time to arm. There are no negative levels.

(G31.2) EFFECT OF TEMPORAL ELEVATOR

(G31.21) BASIC EFFECT: The TE creates a time rift along a plane a short distance from the base. Only units at Level 1 or higher are affected by these conditions. The presence of a TE in a hex does not affect fire or movement between other hexes which passes through a hex containing the TE.

(G31.22) EFFECT ON SEEKING WEAPONS: When seeking weapons enter the hex of a unit which is in a temporal elevator, they do not immediately strike the target. They must (using subsequent movement, just as if they were traversing extra hexes) continue to "move" (or "climb") toward the target. Note that this will, in effect, at least partially identify the target of those seeking weapons (F3.6).

(G31.2201) Seeking weapons targeted on other seeking weapons will hit if at the same level as their target, regardless of the original firing parameters.

(G31.2202) Scatter-packs which need to conduct evasion or station keeping will do so within the levels of the TE.

(G31.2203) Suicide freighters and deathrider PFs which have been released to seeking guidance are considered seeking weapons and can enter the elevator field.

(G31.221) The "movement" of these seeking weapons is recorded on a play-aid chart like that below. The first column is used to record the specific seeking weapon's identification *and the facing from which it entered the elevator*. (Certain other objects may also use this procedure; see the rules below.) The second column records the impulse in which the weapon entered the hex of the TE; this can be used later to verify that the weapon is at the correct level. (If the speed of the moving item is not 32, record the speed also.) The third column, consisting of nine boxes numbered 0-8, records the current level of the weapon. The lowest unchecked box is the current level. When the weapon first enters the hex, it is at Level Zero. As each impulse (when the weapon is scheduled to move) passes, the lowest box is checked off, indicating that the weapon is at the next higher level. When the level of the weapon equals the level of the target, the

weapon has impacted on the target. (There is no need for a "9" box because, if the target is at that level, the weapon would hit when it reached it.)

OBJECTS AFFECTED BY TEMPORAL ELEVATOR

SW OR OBJECT ID	IMPULSE OF ENTRY	CURRENT LEVEL OF SEEKING WEAPON								
		0	1	2	3	4	5	6	7	8

(G31.222) Ships, non-seeking shuttles, and monsters cannot enter the temporal elevator field. Ships in the same hex with an elevated base are at Level Zero except where provided below.

(G31.2221) Units already docked to the base can undock and will automatically descend at a rate of one level per impulse, including the impulse that the unit undocked or was dropped. (Movement of the unit in question is ignored, and any movement points are lost. It cannot change speeds in mid-turn, turn, perform a High Energy Turn or Tactical Maneuver, use Erratic Maneuvers, dock, or disengage by any means, until the impulse after it reaches Level Zero. It cannot accumulate Turn Mode or sideslip points, or movement points to penetrate a web, while in the elevator. The undocked unit will maintain the original relative facing.) Anything launched by such a unit will descend at the same rate (except for seeking weapons targeted on the base or on other units at higher levels in the elevator). Ships in the elevator are at Range Zero (plus the difference in their respective levels) from each other; no unit in an elevator blocks fire to or from other units in the elevator.

(G31.2222) This procedure is also used for mines dropped from the hatch of a unit in the elevator or transported into the field. In this case, a dropped mine would arm when it first reached a level two levels below the current level of the dropping unit. If detonated in the elevator field, the bomb will affect only the hex it is in, and in fact will affect only units on its own level and the level immediately above and below that level. A T-bomb which explodes in the hex at Level Zero will affect everything at Level Zero in that hex and the six surrounding hexes, and will also affect units in the elevator field at Level 1. Movement within a TE will trigger mines, but a mine's own "movement" cannot trigger itself. Falling mines cannot be swept.

(G31.223) Terrain has various effects which must be handled in specific ways.

(G31.2231) Terrain which covers a broad area, such as a radiation or heat zone, covers all levels of temporal elevation equally and without any delay. Planets, moons, asteroids, rings, and dust clouds, however, do not enter the elevator and remain at Level Zero only.

(G31.2232) Moving terrain fronts, such as gravity waves or debris ejected from a nova, are a special case. When the wave or field enters the base hex, a small bit of it is detached (without creating a shadow or reducing the further progress of the wave) and begins "climbing" toward the base and is handled as per (G31.221). It impacts the base with the same effect as it would have after traversing the specified distance. Note that this type of moving terrain front could overtake and damage (or destroy) slower seeking weapons which were moving up the levels should the terrain reach the level of the weapon before the weapon reaches the level of the base.

(G31.2233) Bursts of energy (e.g., pulsar bursts) are resolved like direct-fire weapons (TE range adjustment).

(G31.224) ESGs require special procedures when they strike a hex with an active elevator. Everything in the elevator (at whatever level) is subject to being hit immediately (i.e., in that step) in addition to anything else (in another hex) which the sphere hit at the same time, but the priority for damage will be the order of the levels of the objects (from lowest to highest).

Those objects at Level Zero are considered equally with anything else (in a different hex) that the sphere struck on that impulse. After these interactions (if any) are resolved, the remaining effect of the ESG (if any) is applied to anything at Level 1 [obviously using (G23.52) for priority]. After the Level 1 interactions (if any) are resolved, the remaining effect of the ESG (if any) is applied to anything at Level 2, and so on.

(G31.23) EFFECT ON RANGE: The "true range" from a unit to the base is increased by the number of levels that the base is elevated. For example, a ship in the same hex as a base at Level 5 would have a range to that base of five, and the range from the base to the ship would also be five. A ship in hex 1212 would be nine hexes from a base at Level 7 two hexes away in hex 1214.

This range increase affects everything, including direct-fire weapons; range limits for transporters and mine control, EW lending, controlling seeking weapons; and launch by displacement. Certain special cases are noted below. Andromedan bases would often use the temporal elevator to obtain the most advantageous range to attacking enemy ships.

EXAMPLES: A Federation ship at Level Zero can fire non-overloaded photons at an elevated unit in the same hex at Level 2 or higher because the true range is more than one. A ship at Level Zero cannot fire overloaded weapons at an elevated unit in the same hex at Level 9. A Federation ship at Level Zero fires overloaded photons at an elevated unit in the same hex at Level 3 without taking feedback damage because the target (while in the same hex) is actually three hexes away.

(G31.231) The firing arcs of the base's weapons are not affected. Those weapons able to fire through a given hex side may engage seeking weapons which entered the base's hex through that hex side.

(G31.232) Explosions of mines and ships are (like everything else) affected by the increased distance, and an explosion in the base's hex might not affect it, if the levels were sufficiently separate. Explosions in adjacent hexes will not affect units at Level 1 or higher. Explosions on a level will not affect adjacent hexes, but will only affect units on their own level and the level immediately above and below that level.

(G31.233) Ships inside or outside of the elevator may fire at seeking weapons in the elevator with the range adjusted for their respective levels. The distance between the two units is equal to the difference in their levels. For example, a ship at Level 7 is four hexes from a drone at Level 3.

(G31.234) Collateral damage (J3.3) against a wild weasel in the elevator field could affect only units at the same level.

(G31.235) Separate elevators have a cumulative effect on range. A base in 1210 at Level 4 is 23 hexes from a base in 1223 at Level 6.

(G31.24) ABSORPTION: The PA panels of units within the elevator absorb additional energy from the effects of the elevator itself. This is done during the Dogfight Resolution Interphase (6C) during the same step as PA panels absorb radiation damage.

(G31.241) The amount of energy absorbed depends on the level of the unit at the time of the Interphase. The table below indicates the amount of energy absorbed into each PA panel BANK (not box) during each PA panel radiation damage step. (This includes the "internal" banks on the BS.) Andromedan bases would often climb a few levels just to get energy to recharge their batteries.

LEVEL	1	2	3	4	5	6	7	8	9
ENERGY	1	2	3	3	4	4	5	5	6

(G31.242) Absorption applies to all units with PA panels in an elevator. It does not apply to units which never had PA panels.

(G31.243) Absorbed energy does not cause degradation (D10.32). If the panels are full, destroyed, or inactive, the unit ignores any further energy; it does not take internal damage.

(G31.244) Satellite ships inside of hangars (whether on the Desecrator, or a mothership docked to an elevated base or otherwise in an elevator) do not absorb energy as a result of the elevator's effects. Some energy from a mothership's or Desecrator's panels may be transferred to satellites in the bay by the usual energy transfer rules.

(G31.25) FACING: The facing of units in an elevator is not changed by the elevator. With the exception of base rotations (which affect units docked to the base), no unit in an elevator can change its facing. When a seeking weapon enters an elevator, only weapons on units in the elevator which could fire into the hex from which the weapon came can fire at the weapon.

(G31.3) SPECIAL CASES

(G31.31) TRACTOR BEAMS to or from a base that activates an elevator field are broken when the base moves to Level 1. (Exception: Units docked to the base externally maintain their tractors and docking.) Units in the elevator field cannot tractor each other, cannot be tractored, and cannot tractor units outside of the elevator.

(G31.32) DISPLACEMENT DEVICES AND TRANSPORTERS:
(G31.321) Displacement devices can displace objects out of, but not into or within, an elevator, counting levels as additional hexes of range. A displacement device can be used by a unit in an elevator against another unit (in or out of the elevator), counting the levels as range (G31.23). Anything transported (G8.0) into an elevator hex is at Level Zero.
(G31.322) Transporters will function inside an elevator, and items can be transported into an elevator. However, all items transported into a field are subject to involuntary descent at the rate of one level per impulse (G31.222).

(G31.33) STASIS FIELD GENERATORS cannot affect an elevated base because of its positional stabilizers (G29.23). SFGs cannot affect other units in an elevator because of the interaction between the elevator and the SFG.

(G31.34) SPECIAL SENSORS are not blinded by the elevator and function normally, counting the levels involved as additional range (G31.23).
(G31.35) WEB cannot be at any level greater than zero. Web cast into a hex with a temporal elevator will be at Level Zero and will not form inside the elevator itself. Web already in a hex with an Andromedan base will not rise to higher levels as the base elevates. The base effectively extricates itself from any web laid or cast into its hex. Units in an elevator cannot lay web (or form a pinwheel).

(G31.36) SURPRISE: Units which are "surprised" (D18.0) cannot operate a temporal elevator until activated.

(G31.37) DEACTIVATION: The temporal elevator can, under some cases, suddenly stop functioning, in which case the base will begin to descend at the maximum rate (G31.132). These cases include Energy Balance (D22.0), the base becoming uncontrolled (G2.2), failure to allocate power, or voluntarily (G31.1322).

(G31.38) CLOAKING DEVICES will not function inside an elevator due to the effects of the elevator field.

(G31.39) DISSIPATION of energy from PA panels is not affected by being in an elevator.

(G32.0) PRIME TEAMS

The Federation operates selected teams of individuals known as "Prime Teams." All other empires operate similar units. A Prime Team is a group of five-to-ten personnel trained for a variety of roles. They have the full capabilities of a crew unit, of a boarding party, of a commando squad, of a heavy weapons squad, of a hostage rescue team, of a scientific research unit, and of a diplomatic negotiation team.

(G32.1) DEPLOYMENT

All Prime Teams belong to fleet command headquarters, but some are more or less permanently assigned to key ships.

(G32.11) FLAGSHIPS: All command cruisers, survey cruisers, heavy command cruisers, heavy battlecruisers, diplomatic cruisers, dreadnoughts, and battleships nominally have a Prime Team on board. This can be added to the ship for the appropriate cost without counting against the limit of Commander's Option Points. True carriers cannot use this rule (G32.11). Hydran hybrid warships and Romulan Superhawk-A/Ks (not Bs) can use this rule.

(G32.12) HEAVY CRUISERS: Those ships classified as heavy cruisers can purchase a Prime Team, counting one-half the cost against the limit of Commander's Option Points.

(G32.13) OTHER ships, including carriers, can purchase a Prime Team as part of their Commander's Option Points.

(G32.14) SPECIAL scenario rules might assign a Prime Team to virtually any ship or might specify that a ship which normally has such a team does not have one for a given scenario.

(G32.2) OPERATIONS

(G32.21) CREW: A Prime Team is treated as single crew unit, but is in addition to the normal crew of a ship shown on the Master Ship Chart and SSD.
(G32.211) For purposes of the capacity of transporters or shuttles (or other similar cases), a Prime Team is treated as a boarding party (i.e., as half of a crew unit).
(G32.212) While a Prime Team can perform some functions of legendary officers, they are still treated as a crew unit and not as an individual, e.g., they could not be added to a transporter action without counting against the capability of the transporter.
(G32.213) A Prime Team cannot be killed by damage to the ship [(G9.21) and (D7.21)] or shuttle (G9.16). A Prime Team cannot be attacked by a hit-and-run raid.

A Prime Team can be killed in boarding party combat (including ground combat and hit-and-run raids) but cannot be targeted by specific allocation (D15.33). If the Prime Team is "killed" while on the surface of a planet with a breathable atmosphere, roll one die when the scenario is over. If the die roll is a "1" or "2", the team somehow survived and returned to the nearest Federation base by means that remain classified.

A Prime Team would suffer the fate of any other crew unit if the ship, base, or shuttle they were in was destroyed. They would be the first crew unit evacuated during (D21.0) catastrophic evacuations (and are always in the separable section of the ship), unless the owning player chooses or designates otherwise.

(G32.22) COST: The cost of a Prime Team is 25 points.

(G32.23) MODE: All Prime Teams are designated during Energy Allocation as to what capability (G32.3) they will use for the ensuing turn. There is no delay while changing jobs. Assume that they will continue the function they performed on the immediately previous turn if no other notation is made. Unless the scenario specifies otherwise, they are assumed to have been using (G32.31) on the turn before the scenario began.

(G32.24) KLINGON Dagger Teams (their equivalent of Prime Teams) never mutiny and are always loyal to the Empire (unless stated otherwise in a scenario). They will, of course, support a captain who is serving the Empire even if that captain is doing something that is technically against imperial regulations.

(G32.25) LIMITATIONS: Prime Teams cannot do any of the following: Prevent Klingon boom separations.

(G32.3) CAPABILITIES

A Prime Team has certain capabilities, some of which are similar to Legendary Officers (G22.0). In considering the capabilities of Prime Teams, it is important to remember that it is a team. The doctor or scientist or engineer in Prime Team has the capabilities given below only when he is supported by the other members of his (or her) team, all of whom have been cross-trained in other skills and disciplines so that they can enhance the abilities of the primary team member performing a task. For example, all Prime Teams include a doctor, but this doctor cannot approach the near-legendary abilities noted below without the support of other Prime Team members who have been trained to provide just what the doctor needs. Hence, a Prime Team cannot "break up" and perform several duties simultaneously.

(G32.31) BOARDING PARTY: When not assigned any other function a Prime Team is treated as a boarding party of "outstanding" crew quality level.
(G32.311) COMMANDO: A Prime Team can function as a commando squad (D15.84).
(G32.312) HEAVY WEAPONS: A Prime Team is trained to operate heavy weapons and can function as a heavy weapons team (D15.81). To adopt this role, however, the team would have to be (at the start of the relevant turn) either aboard a friendly warship of in a friendly base or military garrison. (They have to actually obtain the rocket-mortars or other heavy weapons from an arms room.)

(G32.32) CREW UNIT: A Prime Team can function as a normal crew unit. This is particularly useful when taking over an enemy ship, a mission Prime Teams were trained for.

(G32.33) ENGINEER: When functioning as an "engineering team," a Prime Team can perform repairs by (G22.411) once per turn on ships of his own empire.

(G32.34) MEDICAL: When functioning as a "medical team," the Prime Team can "cure" one "wounded" crew unit or boarding party per turn. This takes effect at the end of the turn. They cannot cure "dead" crew units or "legendary" officers.

(G32.35) SCIENCE: When functioning as a "science team," the Prime Team counts as two Lab boxes as per (G22.31). They can perform this duty while also serving as the crew of a shuttle.

(G32.36) WEAPONS: Prime Teams can unlock the phasers, and only the phasers, of captured enemy ships during a scenario as per (G22.75).

(G32.37) SPECIAL scenario rules might provide for die rolls and other functions in such things as "negotiations." In these cases, the Prime Team (if assigned to support these actions) modifies the die roll by one in the most favorable direction.

(G32.38) LEADER: A Prime Team can function as a Legendary Ground Forces Officer but cannot provide this benefit to support the actions of armored ground vehicles. (Prime Teams are trained for light infantry operations and simply do not have the opportunity to train in how to control a mechanized force.)

(G33.0) HEAVY WAR DESTROYER OPTIONAL SYSTEM RULES

The Heavy War Destroyers (and some other ships such as the Hydran Heavy Lancer and the Lyran JagdPanther) are provided with optional weapon and system boxes to allow them to be configured for various missions.

As a general rule, HDWs include four APRs that can be reconfigured for other purposes, two rear-firing weapons option boxes, and four Non-Weapon Options.

The rules for HDW option boxes are similar to the rules for Barbarian simulator ships (R55.0) in *Module C4*. While both were derived independently (by the same designer) for different purposes, the design process resulted in the two rules systems being very similar. While this was done to make both sets of rules easier for players to use, the two rules are intended for different purposes and should not be used to interpret or explain each other. A given HDW can only perform one mission at a given time. The Hydrans, for example, cannot claim that their HDW is both a carrier and its own escort.

(G33.1) HDW OPTIONAL WEAPONS (OPT)

Each HDW is fitted with two Optional Weapon Boxes (marked OPT on the SSD) which work, in most ways, in the same manner as Orion option boxes (G15.4) as modified herein.

(G33.11) WEAPONS AVAILABILITY: The HDW of each empire can use only the weapons commonly available for that empire as defined by (U7.26). This excludes certain "special" weapons such as Klingon stasis field generators and Federation plasma torpedoes and gatling phasers (even on escort configurations). Other conditions also apply:
(G33.111) Special sensors are considered weapons for purposes of the HDW option rules and can only be used in the OPT boxes. They would, even in those mounts, have 360° operating arcs.
(G33.112) ESGs, maulers, and SFGs cannot be placed in HDW OPT boxes. PPDs cannot be mounted in size-4 hulls, but might be used in size-3 or larger ships which use these rules. Rear-firing plasma is limited to the RA tracking arc.
(G33.113) HDW OPT boxes can hold any system on Annex #8H including non-weapon systems.
(G33.114) There is no requirement that the systems in both mounts on an HDW be the same type, unless the system requires the use of both boxes.
(G33.115) Rear options cannot hold phaser-Gs; exception: Hydran ships qualified as escorts under (G33.43).

(G33.12) FIRING ARCS: The firing arcs of direct-fire weapons in HDW OPT boxes are limited to RA (not RH or RX) except as noted. The reason for this is that in order to add weapons to the small size-4 hulls of the HDWs, the weapons had to be mounted on the center of mass of the ship. There was not physical room to install more forward-firing weapons in that position.
(G33.121) Drone racks and anti-drones have 360° firing arcs if placed in HDW OPT boxes.
(G33.122) Plasma torpedoes (other than plasma-D racks) placed in HDW OPT boxes will always have RA tracking arcs and can only be launched directly to the rear.
(G33.123) Plasma-D racks placed in HDW OPT boxes can have either AP arcs OR they could be given RPR and LPR non-swivel firing arcs, but only if two plasma-D racks are used and one is given each arc. They can use (D2.36) tracking arc.

(G33.13) COST: The cost of each weapon which can be installed in the optional weapon boxes on an HDW is provided in Annex #8H.

(G33.2) HDW POWER OPTIONS (APR*/AWR*)

(G33.21) DEFINITION: Each HDW (with one or two exceptions) includes four APRs which are usually located near the shuttle bay and often denoted on the graphic of the ship by a round-cornered hatch. The Federation HDW has four AWRs which are treated as APR-Options for this rule.

These are noted on the SSD by the placement of an asterisk (*) after APR (or AWR as appropriate).

(G33.22) ALTERNATIVES: APR options on HDWs can be converted to cargo, barracks, repair, battery, or shuttle, but all four must be the same type. These four boxes cannot be converted to any other system except those noted. Barbarian "Power Option Boxes" can hold any type of power system, making this the primary difference from HDWs. See (R55.1B).

(G33.23) COST: There is no cost for changing the APRs to any of the other allowed systems. If converted to shuttle boxes, they can be fitted with fighter ready racks for the additional cost provided in Annex #8H.

(G33.3) HDW NON-WEAPON OPTIONS (NWO)

(G33.31) DEFINITION: Marked NWO on the SSD. Most HDWs have four. The Lyran JGP has six. The Hydran LNH has four. The Orion HDW has eight, but no APR options.

(G33.32) BASIC RULE: NWOs can hold any system available in Annex #8H *except* power systems or weapons (as defined in Annex #7D). Special sensors are considered to be weapons for this purpose. Fighters and shuttles are not considered to be weapons for this purpose.

(G33.33) COST: The cost of each system which is installed in the NWO boxes on an HDW is provided in Annex #8H.

(G33.4) SPECIAL CONFIGURATIONS

HDWs which qualify for certain special missions (by their selection of option boxes) gain certain bonus attributes.

(G33.41) EXPLORATION: To qualify as an exploration ship, the ship must be provided with two special sensors (in the weapon options), have the APR converted to CARGO, have one Probe-10 launcher installed, and have two labs added. Other NWO boxes may be used as needed.

(G33.42) CARRIER: The following rules apply for each option box to which a fighter ready rack is added (the below applies to a Federation HDW being fitted to carry F-111s, although the resulting bays are considered semi-external):

One deck crew per fighter (two per heavy fighter).

Drone storage is twelve spaces per drone-armed fighter, each heavy fighter counts as two fighters.

Plasma-D storage is six spaces per fighter so armed, each heavy fighter counts as two fighters.

Note that the cost of the fighters and ready racks must be paid for as an exchange against the shuttles.

If at least eight fighters (each heavy fighter counts as two fighters) are installed (including the two fighters already present which might be converted to a heavy fighter), the ship qualifies as a carrier [(J4.61) and (J4.7)]. One escort (small or large) must be assigned. A carrier cannot be its own escort. There is no exception for the Hydrans; if it has eight fighters (or four heavy fighters), it's a carrier. Hydran HDWs do not gain more launch tubes. No empire gains more hangar doors or balcony positions. HDWs operating as carriers will have the "common" fighter for that year. Fed HDWs cannot have F-14/F-15; Hydran HDWs have the normal Stinger-H deployment (25%).

(G33.43) ESCORT: To be used as an escort, no heavy weapons can be installed in the weapon options, the power options must be used for shuttles (with fighter ready racks), and aegis must be installed at a cost of one point per weapon controlled for limited aegis and two points per weapon controlled for full aegis. (All direct-fire weapons, including G-racks and plasma racks, must be under aegis control.) Aegis cannot be installed on a Heavy War Destroyer unless it is going to be used as an escort, and is removed if the ship is converted to some other mission. The weapon options are limited to: phasers, anti-drones, type-E or type-G drone racks, or plasma racks. (Hydrans can use phaser-G and can have more fighters.) An escort DWH must have four shuttle boxes with two ready racks. Hydran escort Heavy War Destroyers can covert the other non-power option boxes to carry additional fighters. The ship (no matter what empire is operating it) is a heavy escort.

(G33.44) COMMANDO: To qualify as a commando ship, the ship must have at least two barracks, two cargo, two GAS shuttles, and one HTS shuttle.

For every option box used as a barracks, the ship earns the right to buy ten BPs (one of which can be a heavy weapon, commando, engineer, or other special type) plus one GCV in addition to those allowed by Commander's Options.

(G33.45) MINESWEEPER: To qualify as a minesweeper, the ship must be fitted with at least two mine racks and at least two minesweeping shuttles. Additionally, the weapon option boxes cannot hold heavy weapons, and the APR options must be converted to batteries (to reinforce the shields as the #1 shield cannot be increased as would be done with a traditional minesweeping variant of a basic hull). If the ship qualifies as a minesweeper, it gains the benefits of: (M2.45) less likely to trigger a mine, (M7.0) detecting minefields, (M8.0) sweeping mines.

(G33.46) PF TENDER: To qualify as a PF Tender, the ship must be provided with two special sensors, a total of six tractors (the extra cost for mech-links must be paid), and the four APR boxes are replaced with repair. The mech tractors replacing the NWO options will be considered repair capable. If the ship qualifies as a PFT under these rules, it gains the benefits of (K2.651) and (K2.655) weapons storage. The ship also qualifies to use (K2.52) EW support for its PFs and can benefit from (K1.752) (receiving EW from its flotillas PFS) and (K1.756) Wild PFS. . When converting a Gorn HDW to a PFT, an additional tractor beam is added to the ship.

(G33.47) REPAIR: To qualify as a repair ship, the ship must be provided with two cargo boxes and six repair boxes.

(G33.5) SPECIAL RULES

(G33.51) VOID: Any option box on an HDW can be left blank, in which case it would not count for any purpose.

(G33.52) SEEKING WEAPON CONTROL is specified for each ship on the SSD and is not affected by the configuration of the option boxes.

(G33.53) DAMAGE: All option boxes (including the APR options) are destroyed (on the DAC) as the type of box they currently are. An APR* box converted to a shuttle box is destroyed on shuttle, not APR.

(G33.54) PROBES: No more than one additional probe launcher may be placed in an option box. This must be placed in a weapons option box. Exception: See (G33.41). For purposes of weapon firing arcs (G5.33), this probe launcher treats the #4 shield as if it were the #1 shield.

(G33.55) COMMAND: HDWs can be configured as Command Ships by purchasing Flag Control spaces for their options. The Command Rating of the ship (normally six) is increased by one for each such control box purchased to a maximum command rating of ten.

(G33.56) HULL: Hull boxes placed in option boxes can be designated as forward, center, or rear hull by the owner.

NOTE: Annex #8H extract that accompanied the original appearance of this rule was deleted as it was duplicated, and incomplete by comparison, to the updated Annex in *Module G3: The Master Annexes*.

(G34.0) DROGUES

First developed by the Klingons in Y178 as an outgrowth of mech-link technology, these were quickly copied by other empires and came into widespread use by Y180. The basic idea was a structure that could be towed about 5km behind the ship on a "tractor-tether"; the drogue could then be used for various purposes (launching drones or plasma torpedoes, electronic warfare, and other purposes). There were several kinds of drogues, each with their own unique abilities.

(G34.1) MOUNTING DROGUES

A drogue consists of two elements. The towed structure (the actual drogue) and the platform (which is bolted to the deck in the shuttle bay and includes the tractor-tether).

(G34.11) SSD: If a ship mounts a drogue in the shuttle bay, mark a shuttle track in the Administrative Shuttles Table of the ship's SSD with a "D." Drogues can only replace admin shuttles and their variants (MSS, MLS, etc.). They could replace an HTS that a ship normally carried, perhaps with a drogue in one such HTS box and an admin shuttle in the other or with two drogues replacing the entire HTS. Drogues cannot be mounted in any internal or external fighter box (including a box equipped with ready racks to service the fighters of a carrier as found on carrier escorts) or half of a pair of boxes normally used for a heavy fighter. Drogues cannot be deployed on mech-links used by shuttles, fighters, or PFs. Drogues are the size of a single-space shuttle; limitations of the tractor-tether did not allow double-space drogues to be built.

(G34.12) DESTRUCTION: If the shuttle box containing the drogue platform is destroyed (by a normal "shuttle" hit or a hit-and-run raid), the drogue platform is destroyed. If the towed drogue was deployed, it is lost (due to the breaking of the tether); if the towed drogue was still on the platform, it is destroyed with the platform. A seeking weapon drogue loaded with seeking weapons will chain react (D12.12) if a fighter with the same weapons would.
(G34.121) Drogues are treated as shuttles for purposes of victory conditions (S2.23).

(G34.13) REPAIR: If a destroyed shuttle box that originally contained a drogue unit is repaired, the drogue unit is not repaired and a new drogue unit must be purchased and installed (after the scenario is over) if the ship wants to use drogues. If a deployed drogue is damaged, and recovered aboard, it can be repaired as if it were a shuttle (J4.818).

(G34.14) TECHNOLOGY: Drogues can be used (in the appropriate year) by any ship (of any empire, type, or size class) which has shuttlecraft. A ship can have as many drogues as it has space for, but see (G34.211).
(G34.141) Drogue units cannot be installed in option mounts, but could be installed in Non-Weapon Option boxes (G33.3) that are configured as part of the shuttle bay.
(G34.142) The cost of a drogue unit can be paid for as commander's options, or as part of the basic force cost. The cost varies with the type of drogue purchased, but includes the cost of the shuttle given up for the drogue system. For campaign purposes, each purchased drogue comes with one spare drogue of the same type which can replace a spare shuttle; if the player decides not to replace the spare shuttle he cannot store the spare drogue elsewhere. At the time a drogue is purchased, the owning player must record in writing what type of drogue it is. Spare drogues are subject to the same rules as spare shuttles, i.e., they cannot be broken out of storage during a scenario (J1.422) except by an outstanding crew under the provisions of (G21.233), counting as the one shuttle allowed.
(G34.1421) This rule means that in a historical scenario the purchase of drogues will be limited to those that can be bought with Commander's Option Items which will be, by the nature of such a scenario, restricted. However, if one player opted to use a Prime Team (if that option is available in the scenario) the other player could use the 25 points this makes available to him to purchase drogues.
(G34.1422) In a generic scenario a player could purchase any number of drogues as part of the points he is allowed for the purchase of his force. These would not count against his Commander's Options directly, but because they reduce the total ship BPV to compute Commander's options there will be some reduction.
(G34.143) Uncontrolled ships (G2.2) and ships with poor crews (G21.1) cannot use drogues.

(G34.15) TACTICAL INTELLIGENCE: The presence of a deployed drogue (one being towed) can be detected at level D. It is also detected if it takes any detectable action (e.g., firing or launching a weapon, going wild, etc.). If not otherwise identified by any action it has taken, drogues can be identified as to type at Tactical Intelligence Level H.

(G34.16) MONSTERS: A deployed weapons drogue will be detected as a threat by a monster and engaged by MCIDS (E6.1), but are selected as targets for MCIDS as if they were fighters under (E6.42). A decoy or sensor drogue would not be attacked by MCIDS.

(G34.17) FIRE CONTROL: An armed drogue is able to use its weapons four impulses after the impulse it is launched, i.e., if launched on Impulse #9 it can launch a seeking weapon in the seeking weapon segment, or fire a direct-fire weapon in the direct-fire segment, of Impulse #13. This also applies to the operation of the sensors on a sensor drogue.
(G34.171) A deployed drogue uses the EW status of the its ship for all purposes, except that it does not benefit from any ECM generated by or lent to its ship. Any weapons on the drogue will benefit from the ECCM status of its deploying ship, including the effects of any ECCM lent to its deploying ship. The drogue cannot be lent EW as a separate unit from the ship.
(G34.172) In addition to (G34.171), a deployed drogue receives the small target modifier in (E1.7) as an admin shuttle.
(G34.173) Weapon drogues have no fire control of their own but use the fire control of their home ship or base.
(G34.174) Weapons fired by a drogue do not blind the special sensors of a ship towing that drogue.

(G34.2) OPERATIONS

(G34.21) DEPLOYMENT: A drogue is held on its platform until deployed.
(G34.211) Drogues can only function when deployed. A ship can only have one deployed drogue for each of its shuttle bays [exception, tunnel decks (J1.58) or other bays with more than one hatch can deploy one drogue per hatch], and the drogue must have been installed in the shuttle bay it is being towed from. Bays with large hatches, such as the Federation CVA (R2.13), are still restricted to a single deployed drogue. A ship does not have to have active fire control when deploying or recovering drogues, but some drogues will not work without the ship's active fire control. Note that HDWs can have huge shuttle bays and vast numbers of drogues, but can only have one drogue per bay deployed and the "option" boxes are part of the existing shuttle bays.
(G34.212) A drogue can be deployed in the shuttle launch step, counting as a shuttle launch. A drogue can be recovered (pulled back inside the ship and locked to its platform) as a shuttle landing operation. A deployed drogue can only be recovered into the same bay and drogue platform that launched it. The presence of a deployed drogue does not otherwise interfere in the operations of a given shuttle bay, with the exception that launching or recovering a drogue is treated as having launched, or landed, a shuttle on the impulse it occurs. A drogue cannot be landed back aboard earlier than the fourth impulse after it was launched, e.g., launch on Impulse #4, recover no sooner than Impulse #8.
(G34.213) Drogue systems cannot be installed on shuttle mech-links.
(G34.214) In those cases where only a given ship can fire at a given target, weapons on a drogue towed by a ship are considered to be on the deploying ship.
(G34.215) A tractor beam critical hit (D8.2-9) will cause all tractor-tethers to fail. This will destroy a deployed drogue and prevent any undeployed drogues from deploying until the matter is resolved. A shuttle launch controls critical hit (D8.2-10) will prevent any drogues from being deployed or recovered, but will not itself cause any deployed drogues to be lost.

(G34.216) A launched drogue must have its position relative to the launching unit's shield facing defined when it is launched. This location can be changed each impulse during subsequent shuttle launch steps of the Shuttle and PF Functions Stage (6B8) of the Sequence of Play, but any such changes must be announced.
(G34.217) Units held in a tractor (G7.0) by another unit cannot launch or recover drogues. Any deployed drogues are not lost and function normally unless themselves tractored by another unit (G34.222). Exception (G34.331).
(G34.218) Drogues cannot be installed on balconies (J1.53), and cannot themselves use balconies, nor do they interfere with the operations of a balcony system except wherein their launching or retrieval counts as launching or landing a shuttle in that bay.

(G34.22) TRACTOR-TETHER: The tractor tether is a particular type of tractor beam, used only to tow the drogue. It cannot be used to tow or hold anything other than its specific drogue.
(G34.221) The energy cost to operate a tractor tether is one point per tractor tether. In an exception to normal tractor operations, if a tractor-tether is released or destroyed, the designated point of energy could be used to operate a different tractor-tether on the same ship during later impulses of that same turn. This allows a ship to launch a new drogue, even one in a different bay, after the first (or second, or third, etc.) is recovered or destroyed with the same point of power.
(G34.222) A deployed drogue can be seized by a tractor beam (not a tractor tether) on another ship. This results in the destruction of the drogue and breaking of the tether. The enemy tractor must have an effective strength of at least one point after adjusting for range, i.e., if attempting to tractor the drogue at three hexes range the opposing tractor must have at least three points of power (G7.62). There is no auction, if an opposing tractor of an effective strength of one is applied, the drogue is destroyed.
(G34.223) A deployed drogue can be released during the land shuttlecraft step, causing it to be destroyed. (Any event which causes the tractor-tether to fail destroys the drogue.)
(G34.224) Deployed drogues cannot be transferred to other ships, or to other tractor-tethers on the same ship.
(G34.225) A ship with ESGs which is towing a deployed drogue is considered to always have the drogue inside the ESG, regardless of its radius.
(G34.226) Tractor-tethers will not function in any terrain that blocks the use of tractors [e.g., nebulae (P6.6)]. Drogues cannot be deployed in such hexes, and entering such a hex with a deployed drogue will result in its immediate destruction.
(G34.227) A deployed drogue does not interfere in the operations of the shuttle bay it is tethered to except as provided under (G34.212), i.e., deploying or landing it counts as launching or landing a shuttle.
(G34.228) Tractor tethers are released (just as regular tractor connections are) if the ship operating the tether launches a wild weasel or an active decoy drogue [or orders a deployed decoy drogue to go active (G34.332)]. The tether of an operating decoy drogue is exempt from this restriction (G34.331).

(G34.23) COMBAT DAMAGE: A deployed drogue is a distinct unit (not inside the shields of the ship) and can be targeted by all types of weapons, and is a valid target for aegis (D13.21). Damage to a drogue will only affect the drogue, not the ship; exception (G34.333). A drogue inside the shuttle bay can only be destroyed by destroying the shuttle box it is in.
(G34.231) All deployed drogues are treated as shuttlecraft (size class 6 targets) for purposes of damage and are destroyed by ten damage points. There is no "crippled" status for drogues, which retain all functions until destroyed.
(G34.232) Direct-fire weapons can engage deployed drogues.
(G34.233) Seeking weapons can engage deployed drogues. If the drogue that is the target of a seeking weapon is pulled back inside the ship, the ship becomes the target of the weapon as per (F2.335). If the drogue that is the target of a seeking weapon is destroyed, the seeking weapon has no target and goes inert; exception, decoy drogues (G34.333).
(G34.234) Deployed drogues suffer from explosion, terrain, mine, and wild weasel collateral damage as if they were shuttles. A drogue and the ship towing it make only one roll to set off mines, not two. This roll will be for the ship, which overwhelms the signature of the drogue. This means that if a ship with a deployed drogue were to enter a hex where it might be detected by two mines, one set for the ship and one set for shuttles, only the one set for the ship would roll for possible detonation. If the ship entered a hex where a mine set for shuttles might detect it, the mine would only see the ship and not the drogue and so would not explode.
(G34.235) Deployed drogues are damaged by ESGs as if they were shuttles; they are a separate target from the ship towing them. The directional relationship between the ship and the drogue is irrelevant; the drogue is simply treated as another shuttle in the same hex.
(G34.236) A damaged drogue which is pulled back inside the ship can be repaired by the same procedures as repairing a shuttlecraft.

(G34.24) WEAPON STATUS: A ship at WS-III can begin the scenario with one (and only one) deployed drogue (regardless of the number of bays or drogues on the ship). Ships at lower weapon statuses cannot. In the case of a weapons drogue, the drogue is presumed to be loaded at the start of any scenario. If a unit is surprised, rule (D18.12) takes precedence, i.e., any drogues on a surprised unit are not loaded. In addition, a surprised ship may not begin arming any drogues, or deploy any drogues, such as decoy or sensor drogues, until it is activated (D18.3).

(G34.25) MANEUVER RESTRICTIONS: A ship towing a deployed drogue is under maneuver restrictions as follows:
(G34.251) A ship towing a drogue cannot exceed an effective speed (C2.412) of twelve. If it does, the drogue is destroyed. A ship moving at Speed Zero can deploy and use drogues normally. Bases can use drogues.
(G34.252) A deployed drogue towed by a ship which performs an HET is destroyed.
(G34.253) If a ship with a deployed drogue(s) announces that it will begin Erratic Maneuvers in the Final Movement Actions of Stage (6A4) of a given turn, any drogue(s) not recovered in the intervening Shuttle and PF Functions Stage (6B8) of that turn are destroyed in Segment 6E. Drogues cannot be deployed by a ship conducting Erratic Maneuvers, any attempt to do so results in the destruction of the drogue. Enemy boarding parties that have gained control of a ship's shuttlebay might use this procedure to destroy that ship's drogues.
(G34.254) A deployed drogue towed by a ship moving in reverse will function normally. A deployed drogue towed by a ship making a quick reverse will be unaffected.
(G34.255) A deployed drogue towed by a ship performing emergency deceleration or tactical maneuvers will not be affected.
(G34.256) A deployed drogue towed by a ship which is displaced will be displaced with the ship and function normally. The drogue could be displaced independently from the ship, which would destroy the drogue.
(G34.257) A deployed drogue towed by a ship which is placed in stasis will cease to function; a deployed drogue which is itself placed in stasis will cease to function. In both cases, the stasis field breaks the tractor link and the drogue is destroyed (G34.223), but in the latter case destruction occurs when the drogue is released from stasis.
(G34.258) If a ship towing a deployed drogue enters a web hex, the drogue is affected in the same way (if any) as the ship. If the ship leaves the web the drogue is not affected unless the ship is going fast enough to destroy the drogue (G34.251).

(G34.26) CLOAKS
(G34.261) If a ship with a deployed drogue cloaks, the drogue does not void the cloak, and the drogue is also cloaked. Note that a drogue cannot do anything its ship cannot do, so being cloaked would prevent weapons fire and some other abilities. The drogue can be recovered normally.
(G34.262) A cloaked ship could deploy a drogue (assuming that an uncloaked ship in the same situation could); the drogue is also cloaked and does not expose the ship as launching a shuttle would.
(G34.263) When calculating the retention (G13.331) of a lock-on to a cloaked ship, or to reacquire (G13.333) a lock-on to a cloaked ship, the presence of a drogue deployed by the cloaked ship adds a plus one to the equation. Thus (if retaining) the formula would read: P = S – (EW adjustment) – RF + SF – 4 + 1.

(G34.3) TYPES OF DROGUES

(G34.31) SEEKING WEAPONS DROGUE: This was the original Klingon-designed drogue, intended to match Kzinti drone launch rates without the tactical drawbacks of scatter packs. The Kzintis were able to copy this within weeks and by the time the Kzintis told the Federation about it, the Federation had already built their own. Cost is ten points not including the costs of any speed upgrades, see also (G34.311). This type of drogue is used by any ship equipped with drones including, but not limited to, the Federation, Klingons, and Kzintis. Orions with drone racks can use this type of drogue. Lyran carriers, carrier escorts and casual carriers (HDW not in true carrier mode) cannot use drogues of this type. See (G34.313) if a ship of a plasma (or plasma-D) using empire is equipped with a drogue of this type.

(G34.311) The drone-armed version of the seeking weapons drogue holds six spaces of drones, which can include single-space, half-space, and double-space drones. The original factory loading includes standard explosive drones; other drones allowed in scatterpacks (FD7.13) can be substituted at the appropriate cost within the ship's overall drone purchase limits. For this purpose, the six spaces of drones on a given drogue are considered to add two spaces of initial loadout to the ship's drone racks. Once special drones are determined, the owning player may place some or all of his initial loadout of special drones into drogues instead of racks. Given time and deck crew actions as is always the case, a player can unload some or all of his non-special drones and replace them with his reload special drones.

EXAMPLE: Adding a drogue to a D7 in Y178 gives it fourteen spaces of rack drones to compute special drone percentages and 24 spaces of proportional reloads. This allows it to start with four spaces of restricted drones (one of which may be limited) loaded. These four spaces of special drones may be loaded in the racks and/or drogue in any combination the player wants, but the other fourteen spaces of drones on the racks and drogue must be general availability drones.

(G34.312) A deployed seeking weapons drogue can launch its weapons on command; they are not launched by the "detection" system of scatter-packs. A deployed seeking weapons drogue can launch all of its (remaining) seeking weapons at one time or it can launch one per impulse, at the discretion of the player controlling the towing ship. Any seeking weapons launched on a given impulse must have the same target, i.e., the drogue cannot launch a type-IV at a ship and two type-VIs at shuttles in the same impulse, but could launch the type-IV on one impulse and each type-VI on two subsequent impulses. These seeking weapons use the fire control systems of the ship, but if capable of self-guidance can be released to their own control once the attain lock-on.

(G34.313) There is a plasma-D version of this drogue used by the Gorns, ISC, Romulans, and those Orion ships with plasma-D racks. It carries six plasma-Ds. These seeking weapons use the fire control systems of the ship. Plasma-Ks can be substituted for the plasma-Ds (one-for-one); see (FP13.4). There are no launching arc restrictions for plasma seeking weapon drogues, i.e., they can launch their plasma-Fs, plasma-Ks, and/or plasma-Ds in any direction. Plasma Drogues cannot bolt their plasmas. Plasma-D drogues on a ship which has the Sabot Refit (FP11.11) must also be upgraded to use sabot torpedoes, the cost is one BPV point per plasma-D drogue. If the ship has the sabot refit, it must pay this cost for each plasma-D drogue just as it would have to pay the cost for each plasma-rack, plasma launch tube, or plasma-armed fighter ready rack

(G34.314) Seeking weapon drogues can be reloaded by the same procedure as reloading a drone rack or plasma rack.

(G34.315) Note that a ship of a drone-using empire that does not normally operate drones of its own could be equipped with a drone drogue. Such a ship would be able to purchase additional drones with its Commander's Options points to reload the drogue, but the drogue itself does not come with any reload drones. This also applies to a plasma-ship purchasing a plasma-D drogue that does not itself normally operate plasma-Ds. The drogue does not have any reloads, but the ship could purchase additional plasma-Ds with its Commander's Options points to reload the drogue.

(G34.316) Seeking Weapon Drogues cannot operate ADDs.

(G34.32) PHASER DROGUE: As the Klingons worked on their drone-launching drogue, their Lyran allies, with access to the plans, developed their own towed weapons platform, which mounts a phaser-2 and a phaser-3, both with 360° arcs. This type of drogue is used by all empires which use drogues. Replacing a shuttle with a phaser-drogue cost seven points.

(G34.321) A deployed phaser drogue can fire each of its phasers once per turn. The phasers recharge from systems on board the drogue. Firing these phasers uses the ship's sensor and scanner ratings, fire control, etc.

(G34.322) The Hydrans used the above phaser drogue, but also used one which mounted two phaser-Gs. A phaser-G drogue costs eight points. This drogue is not available to empires other than the Hydrans, including the Orion Pirates, WYN Cluster, and LDR. Replacing a shuttle with a phaser-G-drogue cost eight points.

(G34.33) DECOY DROGUE: Once drogue technology was developed scientists and engineers quickly adapted it to other uses, the first of which was a decoy to replace the wild weasel. While this had a strategic limitation (a shuttle could be used for many purposes, but a decoy drogue only had one), it had tactical advantages in that the ship could maintain a greater speed (i.e., Speed 12). Replacing a shuttle with a decoy drogue costs nine points.

(G34.331) A decoy drogue can function as a wild weasel. It must be armed by the same procedures as a WW (J3.12). The ship must meet all other conditions of a ship using a wild weasel except that the (J3.131) maneuver rate limit for a ship protected by an active decoy is twelve. The requirement to meet the conditions of (J3.0) does mean that if a unit is held in a tractor beam, even if it has a decoy drogue already deployed, the decoy drogue will have no effect if ordered to go active (J3.452). (Note that the tractor-tether to the Decoy Drogue is an exception to the requirement that all tractors be released.)

(G34.332) A deployed decoy drogue can be ordered to "go wild" during any shuttle launch step after it is deployed, and thereafter functions as a wild weasel except that it remains attached to the ship and moves with it. Once deployed, if the drogue is recovered it must be re-armed as if it were a shuttle being prepared for the wild weasel mission, i.e., have a point of energy applied on each of two consecutive turns. This re-arming must be done in order to use the decoy as a wild weasel even if it was not ordered to "go wild" before it was recovered. The nature of the system requires the decoy drogue to discharge its energy prior to recovery. A decoy drogue cannot be launched wild, but can be ordered to go wild during the launch shuttle step of the Shuttle and PF Functions Stage (6B8) of the Sequence of Play the impulse after it is launched.

(G34.333) If a deployed wild decoy drogue is destroyed, it remains in that hex for the normal wild weasel explosion period and everything in that hex suffers collateral damage. If the ship exceeds a maneuver rate of twelve during the explosion period, the decoy drogue is voided. Any seeking weapons targeted on the drogue will continue to pursue the explosion hex through the explosion period, but will begin tracking the ship at the end of the explosion period if it is still moving faster than [maneuver rate (C2.42)] Speed 4.

(G34.334) Decoy drogues deployed by cloaked ships are considered cloaked targets, in effect, a cloaked wild weasel. Seeking weapons targeted on such a decoy only score "collateral damage" (J3.3), but this damage is applied to both the decoy and the ship (as well as any other units in the hex). This damage is not reduced by (G13.37).

(G34.335) Due to the nature of drogues, a decoy drogue cannot be launched without its tractor link, and will cease to function, i.e., be voided, immediately if voluntarily or involuntarily released from the link.

(G34.336) A wild decoy drogue can be ordered to drop its wild status during any Shuttle and PF Functions Stage (6B8) after it is ordered to go wild. It cannot resume wild status unless it is rearmed (G34.332). It can be recovered aboard on the following impulse during the Recover (Land) Shuttle step. Any seeking weapons targeted on the decoy revert to the ship, unless they were originally targeted on the decoy regardless of its wild status (if the decoy is recovered aboard, such seeking weapons would also revert to the ship). Type-VI drones which had accepted the decoy as their target will only switch their targeting to the ship if the decoy is recovered.

(G34.34) SENSOR DROGUE: Only shortly after the Decoy Drogue was deployed, engineers from all empires developed the similar but different Sensor Drogue. This platform, which costs seven points, enhances a ship's sensor and EW abilities as follows:
(G34.341) A ship with a deployed sensor drogue can use two more points (total) of ECM and/or ECCM than it could otherwise. This means that the ship can have eight points of ECM, or eight points of ECCM, or some combination of the two not to exceed eight points. These points operate normally, i.e., the ship must allocate the energy for them.
(G34.342) A ship with a deployed sensor drogue obtains tactical intelligence at one column (ship type) higher than it is otherwise entitled. This cannot exceed the table, so a sensor drogue will not improve the tactical intelligence abilities of a scout.
(G34.343) Sensor drogues increase the amount of electronic warfare a scout may lend to a unit in accordance with the above limits. This allows a scout to lend up to eight points of EW to such a unit, including O-EW to an enemy ship with a sensor drogue deployed. In order for the scout to be able to lend the additional electronic warfare both the scout and the receiving unit must have a deployed Sensor Drogue. The Scout cannot lend eight offensive ECM to an enemy unit that does not have its own sensor drogue, and cannot do so if the scout does not also have a sensor drogue. This means that a ship can have eight points of ECM lent, or eight points of ECCM lent, or be lent some combination of the two not to exceed eight points.

(G34.35) HEAVY WEAPONS DROGUE: As the General War dragged on, scientists and engineers sought ways to improve the firepower of their ships, and one result was the Heavy Weapons Drogue. This could carry weapons heavier than the Seeking Weapons Drogue. Due to size limitations, there was no way to increase the firepower of the phaser drogue. Replacing a shuttle with a heavy weapons drogue costs fourteen points.
(G34.351) The heavy drone drogue carried only two drones. These could be any type, but the object of the exercise was to employ the very heavy type-H drones, which could not otherwise be mounted on a ship. Note that a heavy drone drogue cannot be reloaded during a scenario, not even with non-type-H drones. Type-H drones can only be loaded onto the drogue between scenarios of a campaign. Note that special scenario rules might allow a ship equipped with such a drogue to begin the scenario with it loaded with non type-H drones, but it can only hold two such drones no matter how many spaces they are, and it cannot be loaded with ADDs.
(G34.352) The heavy plasma drogue could carry three type-F plasma torpedoes in stasis chambers. Each torpedo has to be loaded as any type-F launcher on a ship (and can be considered armed at the same weapon status as a type-F torpedo, i.e., they are held for zero cost). Plasma-Fs cannot be replaced with plasma-Ds or plasma-Ks. Heavy Plasma Drogues cannot bolt their plasmas. Heavy Weapons drogues armed with plasma-F torpedoes on a ship which has the Sabot Refit (FP11.11) must also be upgraded to use sabot torpedoes, the cost is two BPV point per Heavy Weapons Drogue. If the ship has the sabot refit, it must pay this cost for each Heavy Weapons drogue just as it would have to pay the cost for each plasma-rack, plasma launch tube, or plasma-armed fighter ready rack.

(G35.0) ANDROMEDAN SMALL SUPPORT UNITS

The Andromedans developed and used a number of Small Support Units (SSUs). These are basically very small satellite ships used for certain special tasks and functions. SSUs are Andromedan technology not available to other empires.

(G35.1) SIZE

(G35.11) SIZE CLASS: Andromedan SSUs take up 1/4 of a standard hangar space. That is, four SSUs replace one Cobra, three replace one Viper, and six replace one Python.
(G35.111) The Conquistador's (R10.8) and Ravager's (R10.42) hangars can accommodate one non-SSU satellite ship. The hangars of these ships (and others that may be added to the game later) can be configured to carry a Viper and an SSU. They can be configured to carry up to four SSUs if no other satellite ship is carried. The Imposer's (R10.27) hangar can be configured to carry up to six SSUs, or one Viper and three SSUs, or one Cobra and two SSUs.
(G35.112) If an SSU is picked up by a mothership not configured to carry SSUs, each one takes one hangar space, just as if unit configured to carry Mambas were to pick up a Viper (G19.212).

(G35.12) MOVEMENT COST: Andromedan SSUs have a movement cost of 1/5 of an energy point per hex. Note that many SSUs are immobile (they have no engines). SSUs can be tractored and towed and are not subject to "death dragging" (G7.55) as shuttles are.

(G35.13) TARGETING: SSUs are size class 5 units and considered PFs for targeting purposes (see E1.7).

(G35.14) REPLACEMENT: Small Support Units carried by an Andromedan mothership replace some of the mothership's satellite ship capacity. This requires the configuration of the hangar space just as if a ship originally configured to carry Vipers were to be changed to carry Cobras or Mambas (G19.212). There is no BPV cost to do this, but the hangar capacity devoted to carrying SSUs cannot be used to carry any other satellite ship.

(G35.2) DEPLOYMENT

(G35.21) TRANSPORTERS: Transporting an SSU (launch or recovery) costs one point of energy (G19.41). They otherwise operate under the satellite ship rules (G19.0) unless otherwise defined in these rules. An SSU can be transported directly to, or from, a planet's surface.

(G35.22) DISPLACEMENT: SSUs can be deployed by displacement (G19.42).

(G35.23) ACTIVATION: SSUs cannot use their various systems for four complete impulses from the time of deployment.

(G35.3) TYPES OF SSU

(G35.31) CARGO SSU: One of several methods the Andromedans had to move and store cargo. Each Cargo SSU has twelve cargo boxes, but no weapons, power, crew, or PAs.

(G35.32) SMALL ENERGY SSU: Basically a smaller version of the Energy Module in (G20.0), this has two 360° PA panels and otherwise operates under the rules for Energy Modules.

(G35.33) GROUND BASES: Andromedan ground bases (R10.31) are, in effect, double-size SSUs.

(G35.34) DEFENSE SATELLITES: Andromedan defense satellites (R10.32) are, in fact, a specialized form of SSU.

(G35.35) OTHER SSUs: Three other types of SSUs are so specialized that they are given their own sub-rules. These include the displacement beacon (G35.4), the decoy SSU (G35.5), and the mobile weapons platform (G35.6).

(G35.351) An Andromedan Pseudo Satellite Ship (R10.12) can be considered a type of specialized small support unit. Being the same size as a small support unit, it should be obvious that an Andromedan Mothership could mix PSSs with other small support units to fill its hangar capacity, e.g., on a particular mission carry a PSS and two cargo SSUs in place of a Viper.

(G35.4) DISPLACEMENT BEACON

The Displacement Beacon is a Small Support Unit used by the Andromedans to enhance tactical mobility. While reports are not confirmed, it seems to be a tactical application of RTN technology.

(G35.41) DEPLOYMENT
(G35.411) A given Andromedan force in a scenario cannot have more displacement beacons than it is allowed to have displacement devices (G18.8). There is an exception for bases, which can have up to six displacement beacons as part of their minefield packages; these may be deployed hidden with their hex numbers recorded, or retained for later deployment under (G35.412). A base may purchase one displacement beacon for each minefield package, this is an additional cost not included in the cost of the minefield package itself. Scenarios may specify other exceptions or limitations.
(G35.412) Being SSUs, displacement beacons are deployed by transporters or displacement devices (G35.2). Active beacons cannot be displaced; inactive beacons can be displaced as any other unit of their type.

(G35.42) OPERATIONS
(G35.421) Displacement beacons are deployed in a non-active status. They can be activated by a command from any manned Andromedan ship or base within fifteen hexes with active fire control during the Seeking Weapons Control Step of the Seeking Weapons Stage (6B6). This activation uses one of the ship's seeking weapon control channels under the provisions and limitations of operating a command controlled mine (M5.26). A beacon becomes active four impulses after the command is sent. (Deactivation uses the same procedure.) A beacon transported (or displaced) on Impulse #3 could be activated on Impulse #4 and would become active on Impulse #8.
(G35.422) Once a beacon is activated, its presence [if not previously known, i.e., if the beacon was pre-deployed (G35.411)] and location is known to all units within fifty hexes, even those with passive, inactive, or disrupted fire control.
(G35.423) An active displacement beacon helps Andromedan ships (with active fire control and a lock-on to the beacon) move to its location. In the case of ships self-displacing or being displaced to the hex of the active beacon, subtract two from the die roll for (G18.511), (G18.323), or (G18.52) as appropriate. If the unit being displaced is not within displacement range of the beacon, there is no effect.
(G35.424) If the displacement beacon is destroyed in the intervening Direct Fire Step between the announcement of displacement and the execution of the displacement, the displacement automatically fails.
(G35.425) All Andromedan bases act as displacement beacons for no energy cost. As units cannot displace into or within a temporal elevator shaft via (G31.32), the base's beacon affects only apply if the base is at Level Zero. A displacement device equipped unit in the elevator can use external beacons normally, adding the additional hexes of distance gained by the elevation per the normal rules.
(G35.426) Being held in a tractor does not stop a beacon from functioning. Units displacing to the beacon are not held in the tractor on arrival.
(G35.427) Being in stasis does stop a beacon from functioning; a frozen beacon has no effect.
(G35.428) Displacement beacons do not use PA panels, but are destroyed by 25 total damage points. Each damage point on a displacement beacon can be repaired by five repair points (G17.0). They have no engines and cannot move.
(G35.429) A beacon in a web hex functions normally. A beacon can be used if one web hex is between it and the displacing unit, but not if two or more web hexes intervene.

(G35.5) DECOY SSU

The Decoy SSU was deployed after Andromedans began to be subjected to massive attacks of drones or plasma torpedoes.

(G35.51) DEPLOYMENT
(G35.511) Being SSUs, decoys are deployed by transporters or displacement devices (G35.2). Active decoys cannot be displaced; inactive decoys can be displaced as any other unit of their type.
(G35.512) No Andromedan ship can have more than two decoy SSUs.

(G35.52) OPERATIONS
(G35.521) Decoy SSUs function in much the same way as wild weasels, and use all the rules of wild weasels except as modified herein, i.e., when destroyed they go into an explosion period (J3.211). They must be armed as wild weasels are armed prior to being deployed, must be "held" as wild weasels are held if armed and not deployed, and cannot be deployed within 32 impulses of the point where they began arming with reserve power. (They can be deployed unarmed, but would have no function other than perhaps to be a target.)
(G35.522) Decoy SSUs are deployed in a non-active status. They become active on the immediately following Transfer Control of Seeking Weapons Step. Once a decoy SSU is activated, it functions as a wild weasel (J3.0). The ship must, immediately upon activation of the decoy SSU (or before), satisfy all requirements of a ship using a wild weasel, otherwise, the decoy SSU will be voided and will go inert.
(G35.523) Decoy SSUs do not use PA panels, but are destroyed by 25 total damage points. Each damage point on a decoy SSU can be repaired by five repair points (G17.0). They have no engines and cannot move.
(G35.524) A given decoy SSU can only be used by one Andromedan mothership or base in a given scenario, and must begin the scenario aboard the ship that will be allowed to use it. Any Andromedan mothership or base can recover and repair any given decoy, but a decoy can only be configured to protect a different ship between scenarios.
(G35.525) Decoy SSUs are immobile, i.e., they cannot move under their own power. A decoy SSU can be transported, and on a subsequent impulse it can be tractored (usually by another Andromedan unit) and dragged along. Such dragging does not void the decoy, and it might be dragged at Speed-26 (assuming a Dominator as the dragging unit) (G35.12). Having a satellite ship using one of its TRLs as a tractor to drag a decoy outside of the control range of any enemy ship was a powerful Andromedan tactic versus drone-armed empires. If a decoy is displaced, this is treated under (G18.64), i.e., the seeking weapons continue to pursue the decoy but in its new target hex.
(G35.526) If a decoy is deployed by its mothership, and another mothership transports it aboard, the seeking weapons will accept the second mothership as their target (F2.335), (J3.25), and (G19.48). Note that under (G35.522) the second mothership cannot arm and use the decoy, but could deploy its own decoy if it had one.
(G35.527) If the unit being protected by a decoy is more than 35 hexes from the decoy, the decoy is voided under (J3.42). Note that this situation can occur as a result of a decoy being tractored and dragged away as they are not subject to death-dragging as wild weasels are (G35.12).

(G35.6) MOBILE WEAPONS PLATFORM

Mobile Weapons Platforms (MWPs) are the Andromedan equivalent of fighters, interceptors, and PFs. They are very small, armed and crewed, and function as combat units. See (KC1.0) and (RC10.PF) in *Module C3A* for conjectural Andromedan PFs. See (JC1.0) and (RC10.J) in *Module C3A* for conjectural Andromedan fighters and bombers.

(G35.61) DEPLOYMENT
(G35.611) Being SSUs, MWPs are deployed by transporters or displacement devices (G35.2) and can be displaced.
(G35.612) Andromedan motherships can replace any or all of their satellite ships with MWPs.

(G35.62) OPERATIONS
(G35.621) Unlike most SSUs, MWPs are crewed units with engines able to move. They are under control of the Andromedan player. They operate as any other satellite ship except where noted in these rules. MWPs have a Turn Mode of AA and are nimble (C11.0) units.
(G35.622) MWPs have an SSD. They perform Energy Allocation and operate as unusually small satellite ships. They do not allocate damage by the DAC or by the PF DAC (K5.0); the owning player can distribute internal damage to any boxes of his choosing.
(G35.623) MWPs have the built-in EW capabilities of a PF, i.e., two points of ECCM (K3.71), two points that can be allocated to either ECM or ECCM (K3.72). They can generate additional EW within the rules for a PF under (K3.73). There was a variant MWP that was able to lend EW to MWPs of a given group (R10.52), but MWPs can otherwise only receive lent EW from scouts on a one-to-one basis, i.e., one special sensor can lend EW to one MWP.
(G35.624) All MWPs are capable of landing on planets by the powered landing system.
(G35.625) MWP crews cannot be converted into militia squads except to defend the MWP from ground attack.
(G35.626) MWPs cannot lay mines or purchase mines through Commander's Options. There is an exception for the MMP (R10.53), but it can only use mines provided to it from those purchased by the mothership/base. A special scenario rule may provide that an MMP is part of a raiding force and has T-bombs provided by another unit.

(G35.63) ORGANIZATION: MWPs were operated in groups of up to eighteen units. Generally there would be a dozen standard MWPs, and up to six variant MWPs, at a BATS or Base Station. Similar numbers could be found at planets with PCBs. If an MEP was present, it and eleven MWPs would be configured for EW lending (G35.623).
(G35.631) The status of which MWPs and variants are eligible to receive lending from an MEP must be determined at the start of the scenario. This status can be changed during a scenario by landing the MEP and any MWPs that are to be added to its lending group into a hangar, and remaining there for one turn, i.e., Energy Allocation Phase to Energy Allocation Phase, not just 32 consecutive impulses. At then end of the turn the MEP's new lending group is recorded. MWPs that are not landed can be cut from the group, and cannot be added again without going through this procedure.
(G35.632) Satellite Bases with a Mobile Weapons Platform Hangar Module (R10.55) and GPBs (R10.54B) might have an MEP as one of the six MWPs the module could operate. But any SatBase might have three additional MWP variants as a "support squadron". Generally at least three MWPs will not be docked in the hangar as they are conducting patrols or other missions. SatBase support squadrons cannot consist of more than three MWP variants, at least two of which must be MCP (cargo) variants.
(G35.633) Andromedan Base Stations, and Battle Stations can have up to two Mobile Weapons Platform Hangar Modules (R10.55). They can have up to six MWP variants in their support squadrons, of which two must be MCPs, and no more than one of each other variant type, e.g., three MCPs, one MMP, one MTP, and one MGP. Planetary Control Bases (R10.54) also use this limit. The Desecrator can have up to four Mobile Weapons Platform Hangar Modules, and up to twelve of the MWPs can be support variants. (Note, historically the Desecrator had only two Mobile Weapons Platform Hangar Modules, but in a campaign game players might allow it to have its maximum.)
(G35.634) Any Andromedan mothership deploying MWPs can carry any types, but no more than one MEP can be carried by any given mothership, and no more than one MEP can be at any given Andromedan base, including a Desecrator. MTPs can only be based at bases and cannot be purchased as a satellite for a mothership except by special scenario rule.
(G35.635) Scenarios where MWPs are being used for an independent raid on a planet may define mixes of MWP types outside these rules. For example, a raid might be made by twelve MWPs of which five are standard MWPs, one is an MEP, four are MGPs, and two are MCPs carrying Ground Combat Vehicles. Note that in such a raid the standard MWPs might land on the planet also to debark boarding parties purchased with their Commander's Options.

(G35.64) WEAPON STATUS: Generally, if a base has a support group [(G35.632) and (G35.633)] there will be some MWPs (or variants) that are not docked. Beyond that, MWPs use the deployment patterns for PFs at the various Weapon Status Levels as follows:
(G35.641) Weapon Status 0: all hangar spaces are occupied (if an MWP is available, i.e., assuming the full number of MWPs were purchased), and MWPs outside the hangar do not have their phaser capacitors (if any) energized.
(G35.642) Weapon Status I: the same as weapon status 0 except that all MWPs have their phaser capacitors energized.
(G35.643) Weapon Status II: half of the MWP hangars can be empty, i.e., the MWPs have been launched, phaser capacitors of all MWPs are fully charged.
(G35.644) Weapon Status III: all MWPs may begin the scenario deployed with phaser capacitors fully charged.
(G35.645) MWPs on motherships are deployed within the restrictions of the mothership's weapon status.

(G36.0) ION PULSE GENERATOR

Carried by most Vudar ships, the ion pulse generator (IPG) is a defensive system with limited offensive capability. It creates the effect of a temporary ion storm in proximity to the generating unit. IPGs are a much smaller version of the huge ion storm generators mounted on asteroids and moons.

(G36.1) DEFINITION

(G36.11) SSD: Each IPG box on an SSD is one ion pulse generator. Each is recorded, charged, and used separately.

(G36.12) MULTIPLE IPGs: Some ships carry more than one IPG. If so, they function independently of one another. Multiple IPGs on the same ship may operate at the same time.

(G36.13) SIZE REQUIRED: The size class of a unit determines how many IPGs it can carry:

Size Class 1 (Starbases)	6
Size Class 2 (Dreadnoughts)	3
Size Class 3 (Cruisers)	2
Size Class 4 (Smaller ships)	1
Size Class 5 (PF), 6 (shuttles), 7 (mines)	0

(G36.14) DESTRUCTION: IPGs are destroyed on "drone" hits on the DAC (D4.21).
(G36.141) If the box on the SSD representing the IPG is destroyed (or if a ship with an active IPG is destroyed), the pulse dissipates immediately and all of its effects cease. Any power stored in the capacitor is lost.
(G36.142) IPGs fall between ESGs and PAs for (D4.3223).

(G36.15) REPAIR: The IPG costs six points to repair under (D9.7) and (G17.0). IPGs cannot utilize hasty repairs (G17.5); exception, see (H8.32).

(G36.16) OPTION MOUNTS: IPGs cost zero BPV to install in an option mount(s) of a ship under Annex #8B or #8H. The Orion Pharaoh and Hamilcar Cartels treat this as an operating territory weapon but rarely use it due to the ion energy requirement. The WYN rarely used it for the same reason.

(G36.17) TACTICAL INTELLIGENCE: The presence of an IPG is detected at tactical intelligence level G. If an IPG is operating in either mode, its presence can be detected at tactical intelligence level S5. The specific unit that is operating an IPG can be detected at tactical intelligence level A.

(G36.2) ENERGY ALLOCATION

(G36.21) ENERGY: Energy is allocated to IPGs during the Energy Allocation Phase, or by reserve power.
(G36.211) Energy for IPGs must be impulse, APR, or ionized (H8.0), and can be accumulated over any number of turns during a scenario. The required ion energy must be from impulse engines or APRs [even an impulse engine hastily repaired as APR (G17.5)]. It cannot come directly from warp engines or AWRs (including AWRs hastily repaired as APRs) unless the ship has paid to ionize that energy, see (H8.0). See (G36.221) for energy in an IPG capacitor at the start of a scenario.
(G36.212) Reserve impulse (H7.47) or APR power cannot be added to the IPG capacitor, but must be ionized by (H8.0) as any other energy drawn from the batteries.

(G36.22) CAPACITORS: Each IPG has a capacitor. The capacitor for a given IPG cannot transfer power to a different IPG. The capacitor is destroyed and repaired with the IPG.
(G36.221) The capacitor can hold a maximum of four points of impulse/APR energy and can release any or all (in whole number amounts) of this energy at any time. Any unreleased energy remains in the capacitor. Energy from an IPG capacitor cannot be used for any other purpose. Energy allocated to an IPG may be cancelled under (D22.0) as energy allocated to an ESG (D22.131). Energy stored in an IPG from a prior turn's allocation may not be cancelled by (D22.15). The capacitor is part of the IPG; players allocate power to the capacitor, not to the IPG and the capacitor. The amount of ion energy in the capacitor at the start of a scenario is dictated by the weapon status (S4.0) and the table below:

WEAPONS STATUS	ENERGY STORED
0-I	0
II	2
III	4

(G36.222) Energy can be added to the capacitor by allocation at the start of any turn or by ionized reserve power (H8.24) on any impulse, even if the IPG is operating. A given IPG cannot release more power during a turn than its capacitor can hold, even if reserve power replaces some power used earlier. Power can only be held in a capacitor for 25 turns. If the power is not used in that time, it is lost and cannot be recovered. The capacitor can be recharged without penalty.
(G36.223) If an IPG is destroyed and later repaired, the capacitor is repaired with the IPG but has no power in it when repairs are complete. An IPG cannot be repaired without a capacitor, not even as a hasty repair (G36.14).
(G36.224) Fractional points of energy can be stored in an IPG capacitor, but an IPG can only use whole points of power. Unusable fractional points remain in the capacitor.
(G36.225) The limit on the use of energy by an IPG is per turn. An IPG could expend four points of energy on Impulse #32 of Turn #X, and then expend four points of energy allocated to it (or provided by ionized reserve or battery power during the impulse) on Impulse #1 of Turn #X+1. So long as no more than four points of energy (impulse, APR, or ionized) is used during any given turn (G36.222).

(G36.3) OPERATIONS

(G36.31) MODES: An IPG can be used in one of two modes: a burst of ionic radiation or as a form of jamming. The owning player may use the IPG in either or both modes, on any impulse or impulses, so long as he has the energy to power it.

It cannot simultaneously operate in both modes on the same impulse, but can switch between the two modes impulse by impulse subject to the limits of the power in its capacitor. The decision on whether or not a given IPG will be used in either mode (or at all) is made in the ESG Step of the Seeking Weapons Stage (6B6) of the Sequence of Play. Any active use (Jamming or ionic wave) is announced during that Step. A single IPG cannot operate in both modes simultaneously. Switching to the pulse mode (G36.33) will cancel the jamming mode (G36.32) at the point of the announcement in the ESG Step of the Seeking Weapons Stage (6B6), even if the jamming mode would normally extend over several more impulses.
(G36.311) Uncontrolled ships (G2.2) can use IPGs in either mode, but cannot change modes. IPGs on such ships are locked into the last mode used prior to the ship becoming uncontrolled. Note that uncontrolled status is judged during Energy Allocation (G2.20) and not when the last control box was destroyed. If an IPG had not been used in any mode prior to the ship becoming uncontrolled, the default setting is jamming mode (G36.32).

(G36.32) JAMMING MODE: Each point of energy expended in jamming mode produces three points of "natural ECM" (D6.3143) for the generating ship. No more than twelve points of ECM can be generated from multiple IPGs on an impulse (G36.341), although multiple IPGs can be used to generate this total. This ECM protects only the generating ship (and also penalizes it), and lasts for four impulses. This energy is detected as any other natural ECM would be. If not using the EW rules (D6.3), this procedure adds one to all direct-fire die rolls against, or from, the generating ship for each point of power used, to a maximum of three, and to the proximity of detonation for any seeking weapon striking the ship (D6.361).
(G36.321) Jamming energy is released from an IPG during the ESG Step (6B6). A player might release some of the energy in an IPG on one impulse and more on a later impulse. If the resulting periods of effectiveness overlap, then the effects are cumulative during the overlap period.
(G36.322) If two units equipped with IPGs are docked (C13.0) together, the larger can use its IPGs to protect both units, but the smaller one cannot operate its IPGs while docked. If both docked units are the same size class, neither can operate its IPGs. The operation of an IPG in this mode does not in any way hinder the transfer of cargo or personnel between docked units under (G25.0). Units cannot dock if one or both are operating their IPGs in this mode. The activation of an IPG during a turn by either unit cancels a previously announced docking attempt, and can prevent an enemy ship from docking to a unit with a functioning IPG.
(G36.323) Units generating EW through their IPGs can also receive EW from lending [(D6.3144) and/or (D6.3145)] or other natural sources (D6.3143), generate EW normally (D6.3141), or benefit from built-in EW (D6.3142).
(G36.324) Units generating ECM from their IPGs may stop this effect during the ESG Step (6B6) of any impulse. Once stopped, the energy generating those points is lost, but new points can be generated later in the turn with energy remaining in, or allocated to the IPG by reserve power, within the limits of (G36.222).
(G36.325) WWs are not voided by IPG Jamming, nor does IPG jamming cancel the passive fire control benefit of (D19.31).
(G36.326) The use of an IPG in Jamming mode does not blind special sensors (G24.13).
(G36.327) If IPG energy is released at the end of a given turn, after Impulse #29, it continues to provide its benefit into the following turn. IPG ECM carrying over from a previous turn is not cumulative with IPG ECM created on the current turn if the total exceeds the normal maximum amount of power that a single IPG can release (G36.222) in a given turn. If the total is less than the maximum amount the IPG can release, the ECM is cumulative.

EXAMPLE: An IPG on a given ship uses two points of power on Impulse #31 to create six points of ECM. After the turn break the ship uses another three points of energy to create EW on Impulse #2. The ship's total ECM on Impulse #2 produced by its IPG will only be twelve points, the value of the second point of energy released on

Impulse #31 is lost. On Impulse #3 the ship will have only nine points ECM from its IPG unless it uses a fourth point of power from that, or another if it has more than one, IPG.

(G36.33) DEFENSIVE IONIC WAVE MODE: Each point of energy expended in this mode produces one damage point which is applied to all non-plasma size class 6 and size class 7 units within two hexes of the generating unit (this distance cannot be voluntarily reduced). This is treated as a direct-fire weapon, but is unaffected by the EW status of the target.
(G36.331) Defensive ionic wave mode (DIW) energy release from an IPG is announced during the Seeking Weapons Stage (6B6) and resolved in the Direct-Fire Weapons Fire stage (6D2) after the first hellbore firing step. This can be done only once per impulse; aegis does not confer the ability to release more than one wave per impulse.
(G36.332) Units landed on or docked to larger units, including those on balconies (including shuttles landed on planets or asteroids), are not affected by DIW energy. If two units equipped with IPGs are docked together, the larger can use its IPGs in DIW mode to protect both units, but the smaller one cannot operate its IPGs while docked. If both docked units are the same size class, neither can operate its IPGs. The operation of an IPG in this mode does not in any way hinder the transfer of cargo or personnel between docked units under (G25.0). Units cannot dock if one or both are operating their IPGs in this mode. The activation of an IPG during a turn by either unit cancels a previously announced docking attempt, and can prevent an enemy ship from docking to a unit with a functioning IPG.
(G36.333) DIW has no effect on mines or defense satellites.
(G36.334) DIW damage affects cloaked size class 6 and 7 units normally, i.e., as if they were not cloaked. The interaction of the DIW will reveal the presence of a cloaked unit using hidden movement (G13.6), but will not of itself provide units with a lock-on to a cloaked unit.
(G36.335) WWs are voided if the protected ship generates an IPG defensive ionic wave, the ship will also lose the passive fire control benefit of (D19.31).
(G36.336) The use of an IPG in DIW mode blinds one special sensor (G24.13) for each wave released, regardless of the strength of the wave.
(G36.337) DIWs cannot penetrate webs (G10.0), i.e., they can damage targets in web hexes to which the generating ship has line of fire (D1.5), but cannot damage targets that are behind a web hex. If the Vudar ship is itself in a web hex, the DIW will affect adjacent web hexes and non-web hexes normally. DIWs otherwise ignore terrain conditions; exception Atmospheres (G36.358). DIWs will not damage any terrain type. A DIW that interacts with an atmosphere does no damage to any unit that is itself inside of the atmosphere, but will damage units outside of the atmosphere normally.
(G36.338) If DIW damages a friendly manned Vudar fighter or shuttle (this includes an allied shuttle or fighter), the effects of (J7.336) are applied to all manned Vudar or allied shuttles or fighters in the scenario, whether the damaged units were involved in a dogfight or not. There is no other restriction on the activation of a DIW that damages such shuttles or fighters, as the protection of the ship is of more importance than the loss of a few fighters.

(G36.34) MULTIPLE FIELDS: A ship with multiple IPGs can use any or all of them at the same time, but gains no additional benefit if operated in the same mode in the same impulses. The two fields could be used in different modes and the ship would benefit from each in its individual mode.
(G36.341) If a ship operates two IPGs in jamming mode (G36.32) at the same time, the total gained ECM cannot exceed the capacity of one IPG (G36.22). This means that if a ship activated two IPGs both with four points of power, it would only gain twelve ECM. But if one IPG released three points of power and the other released one point of power, the ship would still gain twelve ECM. It cannot gain more than twelve points of ECM from IPGs.
(G36.342) If two ships operating IPGs in DIW mode have overlapping fields, there is no increase in effect in the area of overlap. In the case of size class 6 and 7 units in overlapping DIW fields, they will be damaged by the stronger of the two (or three, or four, etc.) fields. If the DIW fields are of equal strength, the damage is not increased.
(G36.343) An operating DIW field will affect all size class 6 or 7 units that enter it (G36.334), and as such can protect a unit not docked to the generating ship (including an opposing ship targeted by drones launched by a unit allied to the DIW ship). An operating jamming field (G36.32) can only protect the generating ship and a unit or units docked to it.

(G36.35) OTHER INTERACTIONS: IPGs interact with other systems and rules as follows:
(G36.351) Andromedan PA panels do not, and cannot, absorb any energy from interacting with an IPG in either mode, and are not prevented from dissipating energy if, for some reason, an Andromedan unit is docked to a unit operating an IPG.
(G36.352) The operation of an IPG in any mode will immediately void the unit's hidden status under (D20.0).
(G36.353) Cloaked units cannot use IPGs. A cloaked unit with IPGs cannot activate them until it is fully uncloaked, and cannot activate its cloaking device while an IPG is operating. IPGs do not produce a chance of a lock-on to a cloaked unit if the IPG field (in either mode) is run through the hex of a cloaked unit.
(G36.354) Erratic Maneuvers (C10.0) do not prohibit the use of IPGs. The EW effect (C10.41) will add to the effect of an IPG in jamming mode.
(G36.355) IPGs do not require active fire control, but DIW (G36.33) mode will void a wild weasel (J3.4) and cause the loss of the passive fire control bonus (D19.31).
(G36.356) Legendary officers (G22.0) and outstanding (G21.2) or poor (G21.1) crews have no effect on the operation of an IPG beyond their own inherent EW capabilities/restrictions. For example, a poor crew would be affected by its (G21.111) EW as well as the EW of an IPG in jamming mode, an outstanding crew would be able to counter some of the EW from the jamming with its (G21.211) EW.
(G36.357) If a ship operating an IPG in any mode declares catastrophic destruction (D21.0) or sublight evasion (C7.3), the announcement automatically and immediately cancels the operations of any IPGs on the unit to facilitate those rules.
(G36.358) IPGs cannot be operated by any unit inside the atmosphere (P2.5) of any planet designated as having one (this does mean that a unit landed on such a planet could not use an IPG). If a unit enters an atmosphere hex with an operating IPG, or attempts to activate one in either mode while in such a hex, it (the IPG) is destroyed by atmospheric effects associated with trying to create an ion storm within such terrain. If a ship equipped with an IPG uses it in DIW mode, it cannot affect anything inside an atmosphere hex, even if the ship itself is outside of the atmosphere. IPGs have to be discharged, i.e., the capacitor must be drained of energy, prior to docking internally to a starbase or FRD (C13.81).
(G36.359) An IPG has no effect on an existing tractor link. Jamming mode (G36.32) may prevent the establishment of a new tractor link or transporter attempt through its EW effects (D6.37).

(XG36.0) ION PULSE GENERATORS:

The IPGs on X-ships can store and use more power and operate more efficiently.

(XG36.221) An X-IPG can hold up to eight points in its capacitor. It can have up to four points stored at WS-II and up to six at WS-III. An X-IPG can use all eight points during a turn, but cannot generate more than twelve points of ECM through its IPG at any one time.
(XG36.32) An X-IPG generates ECM in jamming mode for six impulses instead of four.
(XG36.33) An X-IPG generates damage in DIW mode out to three hexes instead of two (this distance cannot be voluntarily reduced).

(G37.0) ION STORM GENERATOR

The ion storm generator (ISG) is used as a defensive system to protect Vudar bases and systems. It creates the effect of an ion storm in proximity to the generating unit. Ion storm generators can only be mounted on bases with positional stabilizers, or on celestial bodies without atmospheres such as asteroids and moons.

(G37.1) DESIGNATION

(G37.11) DEFINITION: Each "ISG" box on an SSD is one ion storm generator. Each is recorded, charged, and used separately.

(G37.12) MULTIPLE ISGs: Some bases carry more than one ISG. If so, they function independently of one another. Multiple ISGs on the same base may be, but do not have to be, in operation at the same time.

(G37.13) SIZE REQUIRED: The size of an object determines the maximum number of ISGs it can carry:

Moon, Asteroid, Base/BATS/SB.....6
Small and Medium Ground Bases
and small bases (SAMS), see (G37.4).....2
Other Units.....0

(G37.14) DAMAGE: ISGs are destroyed on "drone" damage points on the DAC (D4.21). If the box on the SSD representing the ISG is destroyed (or if a base with an active ISG is destroyed), the pulse dissipates immediately and all of its effects cease. Any power stored in the ISG capacitor is lost. ISGs can never be found on units with other systems able to be damaged by "drone" damage points, but would always be the best weapon under (D4.3223), followed by small ISGs, and then IPGs.

(G37.15) REPAIR: The ISG costs eighteen points to repair under (D9.7) and (G17.0). ISGs can be hastily repaired (G17.5) as ion pulse generators for six points, or as small ion storm generators for twelve points. See also (H8.32).

(G37.16) MOUNTS: ISGs replace phaser-4s on Vudar bases. Note that this will replace all the phaser-4s on a base station or battle station, but only half the phaser-4s on a starbase. Each ISG will only have one 60° arc per system. They cannot be mounted on units/moons/asteroids of any other empires, including Orion and WYN option mounts.

(G37.17) TACTICAL INTELLIGENCE: The presence of an ISG on a base can be detected at tactical intelligence level G. If an ISG is operating, its presence can be detected at tactical intelligence level S1. The specific unit that is operating an ISG can be detected at tactical intelligence level A.

(G37.2) ENERGY ALLOCATION

(G37.21) ENERGY: Energy is allocated to ISGs during the Energy Allocation Phase, or by ionized (H8.23) reserve or battery power.
(G37.211) Energy for ISGs must come from impulse engines or APRs [including an impulse engine hastily repaired as an APR (G17.5)] and can be accumulated over any number of turns during a scenario. The required energy cannot come from warp engines or AWRs (including AWRs hastily repaired as APRs). See (G37.221) for energy in an ISG capacitor at the start of a scenario.
(G37.212) Reserve power (H7.47) can be added to the ISG capacitor provided it is first ionized (H8.23).

(G37.22) CAPACITORS: Each ISG is fitted with a capacitor. The capacitor for a given ISG cannot transfer power to a different ISG. The capacitor is destroyed with the ISG.
(G37.221) The capacitor can hold a number of points of ion energy [usually provided by the base's APRs, but it might be drawn from a power grid (R1.28P)] and can release any or all (in whole number amounts) of this energy at any time. [The capacity is four for standard units and six for units with a refit (R17.R1).] Any unreleased energy remains in the capacitor. Energy can only be released when the ISG is activated (G37.3). Energy from an ISG capacitor cannot be used for any other purpose, but energy allocated to, as opposed to stored from a previous turn, an ISG may be canceled under (D22.0) Energy Balance Due To Damage as energy allocated to an ESG (D22.131). The capacitor is part of the ISG; power is allocated to the capacitor, not to the ISG and the capacitor. The amount of ion energy in the capacitor at the start of a scenario is dictated by the weapon status (S4.0) and the table below:

WEAPONS STATUS	ENERGY STORED
0-I	0
II	2
III	4

(G37.222) Energy can be added to the capacitor by allocation at the start of any turn or by ionized reserve power (H8.23) on any impulse, even if the ISG is operating.
(G37.223) If an ISG is destroyed or damaged and later repaired, the capacitor is repaired with the ISG but has no power in it when repairs are complete. An ISG cannot be repaired without a capacitor.
(G37.224) Fractional points of ion energy can be stored in an ISG capacitor, but an ISG can only use whole points of power. Unusable fractional points remain in the capacitor and can only be removed by being combined into whole points for use by the ISG, or the ISG's destruction.
(G37.225) A given ISG can use an amount of energy in a turn equal to the maximum capacity of its capacitor, and in excess of any energy used by that ISG to create a storm (G37.31). There is an eight impulse delay between firing the last directional wave of a current turn and the first directional wave of a subsequent turn.
(G37.226) The capacitor of an ISG is capable of retaining ion (including ion power provided by a unit docked to the base) power for 25 turns. Such power does not revert to non-ion power over a turn break.

(G37.3) OPERATIONS

(G37.31) An Ion Storm Generator, when activated, creates an ion storm (P14.0) with no gravity waves covering the entire map (an area 61 hexes across *centered on the generating unit* if using more than one map). In addition, it can generate waves of ionic force over a considerable range [(G37.32) and (G37.33)]. The created ion storm encompasses everything within its operational range, including planets, as a normal ion storm. It is possible that a gas giant (P2.22) may be partially inside and partially outside of the ion storm effect if it was on the edge of the zone.
(G37.311) The activation of an ISG requires the expenditure of four points of ion power during the Energy Allocation Phase, and the announcement that an ion storm is being created in Step #1 of the Sequence of Play immediately after the point where rolls for super intelligent computer failure (G11.0) would be made. Any random effects of (P14.3) are determined for the current turn as part of the announcement. The four points of ion energy can be allocated from APRs or from energy stored in the capacitor of that given generator, or a combination. If four more points of ion power are allocated on a subsequent Energy Allocation Phase, to the same or a different ISG, the storm continues in effect. If the ISG which is currently creating the storm is destroyed, the effects of the ion storm end immediately at the end of the damage resolution step in which it is destroyed. An ion storm created by ISGs can only be voluntarily cancelled during a subsequent Energy Allocation Phase by not allocating the power to create one and announcing in Step #1 after rolls for computer failure that no storm will be created/continued in the current turn. If an Ion storm has been created by an ISG (or if a natural ion storm is in effect in the scenario), additional energy can be allocated to the generating ISG, or other ISGs, to create ionic pulses (G37.33). If scenario special rules provide that a natural ion storm (P14.0) is present, the activation energy to create one does not have to be paid.
(G37.312) Note that Vudar units are subject to all the rules for ion storms created by ISGs as they are to normal ion storms except as provided herein. Vudar ships lose only one crew unit per turn to radiation, and that loss occurs as part of the DRI on Impulse #28, if the ship was in a radiation zone with one or more down shields for more than eight cumulative impulses since Impulse #28 of a preceding turn.

(G37.313) Units in an ion storm hex cannot be engaged by other units from more than 25 hexes range (P15.6), even if those units are not themselves in an ion storm hex. Units in ion storm hexes cannot engage units that are not in ion storm hexes if they are more than 25 hexes away.
(G37.314) No fire control is required to create an ion storm.
(G37.315) Only one ISG can be used, or is needed, to create an ion storm. That ISG, and any other ISGs on the base, or on other bases in the area, can then produce directional waves (G37.32) without restriction (other than their wave arcs and the energy to do so). At least one ISG on the base must be allocated four points of ion energy on each subsequent turn to maintain the storm, but maintaining the storm will not detract from the ISG's ability to release directional waves.

(G37.32) DIRECTIONAL WAVE: An ISG can be used to release a directional wave of ionic radiation.
(G37.321) Uncontrolled units (G2.2) can use ISGs, but cannot change the mode the ISG was operating in when the unit became uncontrolled. Note that uncontrolled status is judged at the start of Energy Allocation (G2.20) and not when the last control box was destroyed. If a given ISG had not been used in any mode prior to the base becoming uncontrolled, the default setting is directional wave mode (G37.32).
(G37.322) Cloaked units cannot use ISGs. The effects of ionic waves will not reveal the presence of a cloaked unit or provide a lock-on chance.
(G37.323) ISGs can only be used by a unit with activated Positional Stabilizers (G29.0) or by a ground base subject to (G29.28). ISGs operating from the surface of a moon/asteroid without a ground base present are treated as in (G29.28) and would have to be identified by scenario special rule along with their associated power systems.
(G37.324) No fire control is needed to generate a wave.

(G37.33) OPERATIONS: Each point of energy expended in the firing of an ISG in directional wave mode produces a number of damage points which are applied to ALL units within range and arc of the generating unit. The effect is treated as a direct-fire weapon, but is unaffected by the EW or cloaked status of the target. The intent to release an Ionic Wave must be recorded as part of the Fire Decision Step (6D1).
(G37.331) Energy is released from an ISG during the Direct Fire Weapons Stage (6D2), just after the First Hellbore Firing Option. This can be done only once per impulse; aegis does not confer the ability to release more than one wave per impulse. Damage scored by an ISG on a given unit is combined with any normal direct-fire damage scored on the unit in a single volley. Energy can be released from an ISG in increments of full points of power per impulse on consecutive or later subsequent impulses, or all full points (not fractional points) of energy in a given capacitor may be released on one impulse. The release of energy from any given ISG has no effect on the ability of any other ISG to release energy on the same or any other impulse.
(G37.332) Units landed on or docked to larger units are not affected by ISG energy, including those on balconies. Units to which an ISG does not have a direct line-of-sight because they are behind a planet (P2.0), including a small moon (P2.23), or docked on the reverse side of a large asteroid (P3.43), cannot be damaged by an ionic wave.
(G37.333) The effect of the simultaneous use of multiple ISG ionic waves is cumulative.
(G37.334) ISG damage affects cloaked units normally, i.e., as if they were not cloaked, but does not expose cloaked units.
(G37.335) WWs are voided if the protected unit generates an ISG ionic wave, IPGs function normally.
(G37.336) The use of an ISG blinds one special sensor for each wave released, regardless of the strength of the wave, this is an exception to (G24.135) which normally shields the sensors of a base from such blinding.
(G37.337) ISGs cannot penetrate webs (G10.0) (except for the radiation zone effects), but are otherwise unaffected by terrain conditions and will not damage any terrain type.
(G37.338) ISGs do not affect mines, defsats, plasma torpedoes, active ESGs, or anything inside an atmosphere or landed on a planet/moon/asteroid. The ionic wave does not interact with an active ESG in any manner short of destroying the ESG system.
(G37.339) For purposes of (J7.336), an ionic pulse hitting a hex where Vudar fighters (or Vudar allied fighters) are engaged in dogfights with opposing fighters counts as the firing of a direct-fire weapon at that dogfight.

(G37.34) ION STORM GENERATOR TABLE

RANGE	0-3	4-6	7-9	10-12	13-15	16-18
DAMAGE POINTS PER ENERGY POINT	6	5	4	3	2	1

(G37.35) ION PULSE GENERATORS: Ion storm generators of either size can operate as ion pulse generators (G36.0). When used in IPG mode they operate under all the rules and conditions of IPGs and cannot use any more power than an IPG could use (G36.22). Any power stored in the Ion Storm Generator in excess to the power needed to operate as an IPG is not lost, but remains in the ISG's capacitor [(G37.221) and (R17.R1)].

(G37.4) SMALL GENERATORS

The Vudar have developed a smaller version of the ISG. It is still too large to employ on ships and requires positional stabilizers to be used. This smaller system is used to rapidly establish a Vudar presence in areas by allowing bases to be deployed quickly. Small Ion Storm Generators operate exactly as normal Ion Storm Generators (i.e., a capacitor that holds four points of power, etc.), except as provided herein. Small Ion Storm Generators are designated SSG on the SSDs that have them.

(G37.41) RADIUS: Small Ion Storm Generators create the effects of an Ion Storm in an area 25 hexes across centered on the Small Ion Storm Generator.

(G37.42) RANGE: Small Ion Storm Generators have a maximum range for their Ionic Pulse of only twelve hexes doing damage as provided in table (G37.45) below

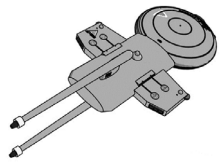
(G37.43) SET UP: Because of the delay in activating Positional Stabilizers (G29.12), no portable base will be able to operate during a scenario where it is delivered. A scenario might define that a base in place is going to become operational within a defined number of turns.

(G37.44) REPAIR: Small Ion Storm Generators cost twelve points to repair and can be hastily repaired as Ion Pulse Generators for six points like normal Ion Storm Generators. See also (H8.32).

(G37.45) SMALL ION STORM GENERATOR TABLE

RANGE	0-3	4-6	7-9	10-12
DAMAGE POINTS PER ENERGY POINT	4	3	2	1

END OF SECTION (G0.0)



(H0.0) POWER SYSTEMS

(H1.0) GENERAL RULES

The operation of starships in this game is primarily based on electrical power. Ships (which include bases, warships, freighters, PFs, interceptors, etc.) generate power from their engines and reactors and expend power for movement, shields, weapons, and other activities. Batteries can be used to temporarily store surplus power and deliver it when needed.

The rules below describe the power-producing systems of the ships. Note that some systems (such as photon torpedoes) and some functions (such as movement faster than a speed of one) require the expenditure of warp power.

Note rule (D4.223), which states that any system which is destroyed ceases to produce power at the end of the turn. Exceptions: (D22.0) Energy Balance due to Damage and (H7.38) destroyed batteries lose their power immediately.

The power which is generated by a system lasts only until the end of the turn for which it was generated, at which time it is lost if it was not used (excepting any power placed in batteries or other systems capable of storing power). The next turn each power system box (except for batteries, which must be refilled) could again generate power which may be applied. Note that reserve power (H7.0) is withdrawn from the batteries at the time of use (H7.13), and it will last until the end of the turn in which it is withdrawn.

The terms "energy" and "power" are generally used interchangeably in the rules to *Star Fleet Battles*.

The terms “energy point”, “point of energy,” “point of power,” “unit of energy,” and “energy unit” are also used interchangeably.

Fighters, shuttles, and seeking weapons technically do generate and expend power, but this is done automatically and does not require the detailed accounting used for ships.

(H2.0) WARP ENGINES

Warp engines are the primary power source of most of the ships in the game. They use the reaction between matter and anti-matter to produce tremendous amounts of energy. They are the only power source that can move the ship at translight speeds (more than one hex per turn).

NOTE: Shuttles (including fighters) use warp drives, but these are accounted for by special rules in section (J0.0). As these units do not allocate power (it is allocated for them by the rules), they do not concern us here.

(H2.1) SSD

Each box in the cluster of boxes on an SSD which is marked "warp engine" (or “warp” or “WRP”, etc.) represents one unit of power. For example, the warp engines of the Federation heavy cruiser each have fifteen boxes and can each produce fifteen units of power. The Kzinti strike cruiser’s three engines only produce nine units of power each. The Gorn heavy cruiser’s engines produce sixteen units of power each.

The WYN radiation zone (P7.1) can reduce the power output of warp engines.

(H2.2) REQUIRED USE

Some activities REQUIRE that the specific energy used in that activity be warp energy. This is specified in the rules for all applicable systems. A partial list includes:

High Energy Turns (C6.22),
movement faster than one hex per turn (C2.111),
warp Tactical Maneuvers (C5.22),
arming or overloading photon torpedoes (E4.21),
operating displacement devices (G18.2),
arming a probe as a weapon (G5.32), and
arming suicide shuttles (J2.221).

(H2.3) WARP REACTORS

Warp power can also be produced by warp reactors (H4.3). Power from warp reactors cannot be used for any movement-related function (e.g., movement, warp Tactical Maneuvers, High Energy Turns, Erratic Maneuvers, etc.) but can be used for other warp-required functions listed in (H2.2).

(H2.4) UNRESTRICTED USE

Warp power can always be used for any activity that does not specifically require some other form of energy [e.g., impulse movement (C2.111) and sublight Tactical Maneuvers (C5.12) specifically require impulse engine power]. While warp power is primarily used for movement, players are not required to use some, or any, of their warp power for this purpose. Warp power can be used for non-warp purposes, such as shields, transporters, weapons, etc.

(H2.5) EMERGENCY WARP

Some Klingon penal ships (R3.R5) have emergency warp engines. (These are in *Module R3*, so this provision can be ignored by the beginning player.) Power from these engines cannot be used for movement-related functions until ship separation occurs; also see (H3.5), (G12.11), (G12.71), and (R3.R53). It can be used for other functions at any time. This rule does not apply to other ships unless stated otherwise in the rules

(H3.0) IMPULSE ENGINES

Impulse engines are nuclear/ion engines, not unknown in the late twentieth Century. They can produce tremendous amounts of power, but cannot move the ship faster than the speed of light. Their power may be, and often is, used for other purposes.

(H3.1) SSD

Each box in the cluster (or clusters) of boxes on an SSD marked "Impulse" (or “IMP”) represents one unit of power. For example, the Federation CA has four "Impulse" boxes and (hence) four units of impulse power.

(H3.2) RESTRICTED USES

Impulse power can be used for any function that does not require warp power. Players can but are not required to use some of it for movement.

(H3.3) MOVEMENT

If all impulse engines are destroyed, the ship can still move by warp power [it could not use sublight Tactical Maneuvers (C5.1) which require impulse power]. Remember that the equation for speed includes the number of warp engine boxes used for movement (adjusted for the ship’s movement cost) plus (possibly) one movement point provided by one impulse engine (C2.16). If a given ship doesn’t have impulse engines remaining, its speed is limited to 30 or by whatever warp power (adjusted by movement cost) it has (whichever is less).

(H3.4) IMPULSE MOVEMENT COST

Regardless of movement cost, one unit of impulse power will move a ship (or several ships tractored together) one hex. See (C2.111). One point of impulse power could alternatively produce one sublight Tactical Maneuver (C5.1) if the ship was not moving.

Exception: Impulse power cannot move a large asteroid (P3.434).

Exception: Impulse power is sometimes not used in the case of ships linked by tractor beam. See (G7.36-B).

(H3.5) EMERGENCY IMPULSE

Some ships (e.g., Klingon D7) have emergency impulse engines. Power from these engines cannot be used for movement-related functions until ship separation occurs; see (G12.11). It can be used for other functions at any time. See also (G12.71) in the case of Klingon ships.

(H4.0) AUXILIARY POWER REACTORS

Most ships in the game are equipped with auxiliary power reactors (APRs). These are nuclear reactors of advanced design, with improved safety and environmental equipment.

(H4.1) SSD

Each APR box on an SSD represents one unit of power available from the auxiliary power reactors.

(H4.2) RESTRICTED USE

Reactor power can be used for any purpose not specifically requiring warp power or impulse power.

(H4.3) WARP REACTORS

Certain ships have AWR (Auxiliary Warp Reactors) instead of or in addition to the more common APRs. These include the general APR/AWR conversion applied to many Federation ships in their refits (R2.R3), some of the more modern ships built during the late General War years, and other rules (e.g., ship modifications) that may be presented in future products.

(H4.31) Warp power from AWRs cannot be used for movement-related functions (including Erratic Maneuvers, warp-Tactical Maneuvers, or High Energy Turns).

(H4.32) AWRs are damaged on APR hits. Exception: the warp reactors on bases (except starbases) are considered to be "center warp engine" and not APR for damage purposes.

(H5.0) BATTERIES

These are conventional storage batteries, though of an incredibly advanced design. Batteries are the key element in Reserve Power (H7.0).

(H5.1) SSD

Each box on an SSD marked "battery" (or "BTTY" or "BTY") represents one battery.

Each battery has the capability to store up to one point of energy for later use. Exception: (H5.5).

See (H7.38) in the case of a battery which is destroyed while holding power.

(H5.2) CHARGED STATUS

All batteries of all ships are presumed to be fully charged at the beginning of all scenarios unless otherwise specified in the scenario rules.

Exceptions: Maulers (E8.0) might not have energy in their batteries if they have been surprised (D18.14). Andromedan ships see (D10.55).

(H5.3) CAPACITY AND USE

The power stored in batteries may be used when extra energy is needed; the batteries can be recharged during Energy Allocation.

The use of batteries in this respect is more fully covered in the Energy Allocation rules (B3.0).

(H5.31) No battery may hold more than one unit of energy; exceptions are listed in (H5.5). Batteries may hold fractional points of energy so long as the total is less than or equal to the capacity of the battery.

(H5.32) Batteries discharged during Energy Allocation may be recharged during the same Energy Allocation Phase, presumably to facilitate the use of Reserve Warp Power (H7.43) or Reserve Impulse Power (H7.47), although the procedure is not restricted to that one use.

(H5.33) Each battery is used independently of other batteries, even in the case of connected SSD boxes.

Exception: Many of the batteries on ships equipped with a mauler must be discharged in groups when fired through the mauler cannon (E8.32).

(H5.4) LEGAL USE

A battery cannot be discharged unless the energy is being used for something in the Energy Allocation Procedure (B3.0) or in mid-turn as Reserve Power under the provisions of (H7.0).

Note that, if a player wishes to discharge batteries, he can use some or all of his battery power instead of using the full amount of output from his power-producing systems.

Power from batteries is neither warp nor impulse power and, as such, cannot be used for functions which require those specific types of power. Exceptions: Reserve Warp (H7.4), Reserve Impulse (H7.47), Second-Generation X-batteries (XH5.1).

(H5.5) SPECIAL BATTERIES

Some units have special or improved batteries. These are listed here.

Andromedan ships (D10.55) have batteries which are able to hold five units of power each.

First Generation X-ships (XH5.1) have batteries able to hold three units of power each.

Second Generation X-ships (XH5.1) have batteries able to hold five units of power each. These batteries can hold “warp power” for multiple turns.

Note the Andromedan batteries are not “X-batteries" and cannot hold warp power over a turn break as second generation X-ship batteries can.

(H5.6) TRANSFER

Power can be transferred from one specific battery to another during Energy Allocation. This might be done by a mauler to reorganize its firing ability.

(H6.0) PHASER CAPACITORS

All ships have a "phaser capacitor." This is a special storage battery (actually a network of smaller capacitors) used to fire the ship’s phasers. The terms “capacitor” and “capacitors” are both technically correct and may be used interchangeably when talking about the phaser capacitor on a ship.

Capacitors must be energized (E2.3) before they can hold power. Some other systems [example ESGs (G23.24)] also have capacitors; these are not linked to or part of the phaser capacitor.

(H6.1) ENERGY HELD

Energy can be held in the phaser capacitor from one turn to the next and can be withdrawn during any impulse to fire the ship’s phasers. It can never be withdrawn for any other purpose; exception Energy Balance due to Damage (D22.15). See (H6.5).

(H6.2) ENERGY USED

Energy can be added to the phaser capacitor as allocated power during the Energy Allocation Phase (B3.0) or by using Reserve Power (H7.0) during the Impulse Procedure and Record-Keeping Phases.

(H6.21) LIMIT: Capacitors have an absolute limit as to how much power they can hold. The capacity of the phaser capacitor is equal to the total amount of power required to fire each of the ship’s phasers one time, rounded to the next higher whole number. For example, the Federation CA, with six ph-1s, has a phaser capacitor of six; the Kzinti CV, with five ph-1s and eleven ph-3s has a phaser capacitor of eleven (5x1 + 11x0.5 = 10.5, which is rounded up to eleven).

Exception: When using the Advanced Rules (or higher), Fractional Accounting (B3.2) is used and the capacity of the capacitor is exactly equal to the energy required to fire the phasers (do not round up), in which case the Kzinti CV’s capacitor would hold 10.5 points rather than eleven.

(H6.22) REQUIRED CAPACITOR: All energy to fire phasers must come from the capacitors (not directly from power sources), and energy cannot be allocated to the capacitors unless they have the capacity to receive it. If the capacitors are still full from the previous turn, no power can be allocated to phasers. Reserve power used to fire a phaser is applied to the capacitor and can then immediately be used to fire the weapon in the same impulse (within the restrictions of the rules, e.g., rate of fire).

If the capacitors are full when reserve power is applied and phasers are fired, it is assumed that power was drawn from them and simultaneously replaced with the reserve power. If phasers are fired earlier in a turn, reserve power can be applied to fill the emptied capacitor space, but cannot be used to fire the phasers a second time in a given turn, or within a quarter turn of a previous firing of those phasers on a subsequent turn.

(H6.23) ANY PHASER. The energy from the phaser capacitor can be used to fire any phaser of the ship, within the restrictions of the rules. It is therefore possible, without applying additional energy to the capacitor, to draw energy from the capacitor during one turn in order to fire a particular phaser and then, on the next turn, to draw energy from the capacitor to fire the same phaser again (assuming sufficient energy remains in the capacitor). For example, a Klingon D7 has nine ph-2s and therefore its phaser capacitor can hold nine units of power. Since the most common Klingon attack (oblique approach) will result in firing only seven of the phasers, two points will remain in the capacitor at the end of the turn and could be used next turn to fire two of the phasers which fired on the first turn.

(H6.3) DESTRUCTION

If a phaser is destroyed, an equivalent portion of the phaser capacitor is also destroyed. Any energy in the destroyed portion is lost. Naturally, players may consider the uncharged (i.e., empty) elements to be destroyed first. If a phaser is repaired, an equivalent portion of the capacitor is also repaired (although it is uncharged). If all phasers have been destroyed, the entire capacitor is considered destroyed.

(H6.4) TIME LIMIT

Power can only be held in a capacitor for 25 turns. If the power is not used in that time, it is lost and cannot be recovered. The capacitor could, however, be recharged without penalty. See (E2.32) for more detail on this function.

(H6.5) ENERGY BALANCE

See (D22.15) for a possible way in which power could be taken from the capacitors.

(H7.0) RESERVE POWER

Ships may use their batteries as a source of reserve power. Note specifically that unallocated power from engines or reactors is NOT treated as reserve power; it was simply never produced (B3.4). Excess movement energy released by Emergency Deceleration (C8.102) is not treated as reserve power.

All ships may use reserve power during all historical periods unless noted otherwise in specific rules.

In general, any system may receive power at the appropriate time from the application of reserve power. This is subject to the restrictions of this entire section (H7.0) plus any additional restrictions stated in the rules of the particular system.

(H7.1) OPERATIONS

(H7.11) TIMING: A battery may be discharged to produce reserve power at any time during the impulse procedure at the option of the owning player. See (H7.13) for restrictions.
(H7.111) Batteries can be discharged during Energy Allocation to produce power that is allocated in that phase, but batteries which remain charged (or which were charged) during Energy Allocation are available for use as reserve power. By definition, reserve power is generated by the unplanned discharge of a battery; battery discharges allocated during Energy Allocation do not produce reserve power, although they may help to clear the batteries for the subsequent use of special types of reserve power; see (H7.4).
(H7.112) Destroyed batteries lose their reserve power capability; see (H7.38). Repaired batteries can be used for reserve power, but are empty when repaired and must be recharged.
(H7.113) The total amount of reserve power (battery, reserve warp, and reserve impulse) cannot exceed the capacity of the batteries.

(H7.12) TIME OF EFFECT: If reserve power is used to activate some system during the turn (say, electronic counter measures or reinforced shielding), this takes effect from that point until the end of the turn. It is not retroactive to the beginning of the turn, nor does it carry over into the next turn. For example, one point of power allocated to ECM will provide that ECM strength for the entire turn, but a unit of reserve power added to the ECM during the turn will, by definition, produce only a part of a turn's ECM. This is the penalty for the flexibility gained.

(H7.13) RESTRICTED TIME OF USE
(H7.131) Reserve power is normally withdrawn from the batteries at the time (i.e., at the specific point in the Sequence of Play) that it is used. There are no restrictions on such withdrawals.
(H7.132) Reserve power may also be transferred from the batteries to various systems which will be used later.

For example, a player notes on Impulse #12 that enemy drones are approaching and transfers reserve power to the tractor beams at that time, even though the drones will not be within tractor range for several impulses. He might do this in anticipation of losing batteries to enemy direct-fire damage on the next impulse, when he will be within the firing arc of a mauler.

Such transfers (which could be for any legal purpose, not just tractors) can only be done at the end of each impulse. This "delayed use reserve power" is then treated simply as allocated power. At the moment the power is withdrawn for this expected use, the battery is regarded as having discharged the corresponding amount of energy. This power is considered to be expended at the moment in which it is withdrawn. This is not the same meaning for "expended" as used in (D22.0).
(H7.133) Reserve power used to initiate the arming of a wild weasel (J3.122) or fighter reload box (J4.88) is transferred during the Shuttle Launch Step.

(H7.134) One of the most critical moments for the user of reserve power is at the time that damage is scored on the ship. After damage is scored (i.e., after die rolls, the movement of seeking weapons, asteroid, etc.) and the number of damage points is known, there are relatively few things that reserve power can be used for (before the internal damage is actually allocated, with the chance that batteries might be destroyed). These include the following options only:

- Reinforcing shields and providing general reinforcement, but not raising them or increasing their level. Decisions on whether or not to apply reinforcement energy are made in response to each given step of the Direct-Fire Weapons Fire Stage (6D2). A player must decide about reserve reinforcement before seeing whether "later" weapons hit.
- Increasing the level of PA panels.

TACTICS: Entire doctoral theses at Star Fleet Academy have been written on this subject. Expert players will know instinctively how many internal damage points must be scored on their shields to reach (and destroy) the batteries. For example, three overloaded photons striking the #2 shield of a Klingon D7 will cause 26 internals, an amount that will almost certainly destroy the batteries (given average distribution of die rolls on the DAC, this would take about eighteen, due to the shortage of forward hull on most Klingon ships). In this case, an expert Klingon captain would discharge the batteries into shield reinforcement so that the energy would not be completely lost. A Federation CA, with plenty of forward hull, will probably still have most of its batteries after a volley of twenty internal damage points and would lose them to a volley of 36.

(H7.2) SOME USES OF RESERVE POWER

Reserve power can (within the limits of the rules) be used to:

SYSTEMS

Increase the amount of ECM or ECCM (D6.315) being generated or lent by (G24.2114) or (J4.93). Generate reserve EW for use under (G24.211).
Raise shields or increase their level (H7.34).
Reinforce shields (H7.34), even after damage is scored (H7.134) or a boarding attempt is announced (H7.341).
Activate or reinforce PA panels (D10.24); see (H7.346).
Activate a cloaking device (G13.21).
Operate mine detecting systems (M7.21).
Activate active fire control (D6.6).
Provide power for tractors (G7.411) or transporters (G8.13).
Begin arming a wild weasel (J3.12).
Increase speed through (C12.24), use warp Tactical Maneuvers (C5.2), begin Erratic Maneuvers (C10.11), or make an High Energy Turn (C6.2); these are movement-related functions which can be performed with reserve warp engine power (H7.4) only.
Use sublight Tactical Maneuvers (C5.1), begin Erratic Maneuvers (C10.112), or accelerate (C12.25); these are impulse-movement-related functions which can be performed with reserve impulse engine power (H7.47) only.
Lay (G10.2) and reinforce (G10.33) web.

WEAPONS

Fire weapons which can be armed in one turn (H7.5). Reserve power cannot be used to arm a weapon which was fired or discharged on the same turn; exception: phasers, PPDs firing over a turn.
Overload weapons otherwise ready to fire (H7.54).
Overload (but not fire or begin loading) a PPD (E11.24). PPDs cannot receive reserve power while firing.
Begin arming multi-turn weapons (H7.53) and other systems (H7.32).
Energize phaser capacitors (E2.33).
Begin arming a suicide shuttle (J2.22).
Complete a plasma torpedo held with rolling delay (FP1.91) or complete it for fast firing (FP1.93).
Increase the power in the capacitors of weapons that use them.
Add power to unreleased ESGs (G23.21), stasis field generators (G16.2), snares (E13.2), or web casters (E12.3).
Arm fighter heavy weapon energy storage systems (J4.89).

The above is only a partial list of the possible uses of reserve of power. This entire rule (H7.2) is not technically a rule, but is simply a list of cross-references; details on these uses are included in the rules referenced above. Some other uses (or prohibitions) are listed in the various rules relating to those uses.

(H7.3) RESTRICTIONS

(H7.31) FREQUENCY OF OPERATION: Even with reserve power, a given system cannot be operated more often than the rules allow. For example, a given transporter can only be used once per turn. [Exception: (D21.31).] This could be done with energy allocated at the start of the turn or with reserve power provided at any point during the turn. A given transporter could not be operated twice in one turn using allocated power one time and batteries the other.

EXAMPLE: A Klingon D7 has all three batteries remaining, and each of them is holding one unit of power. During the turn, an unexpected opportunity to board an enemy ship occurs. Power had not been allocated for transporters, but the Klingon player can draw it (one point, which will power all five of his transporters as they cost 1/5-point each) from one of the batteries. This requires an adjustment of the battery records as it was not listed on the Energy Allocation Form. Later in the same turn, the enemy ship fires on the D7, delivering a minor four points of damage to the forward shield. This shield had been reinforced specifically with two units of power. This negates two of the four damage points. Rather than accept the other two points of damage onto the front shield, the Klingon player elects to discharge his reserve power (the two remaining points in the batteries) into the front shield, canceling the other two points of damage. Thus, none of the damage is permanent.

(H7.32) MULTI-TURN CHARGING SYSTEMS [e.g., Displacement Device (G18.0)] can begin charging with reserve power, but cannot do so on a turn during which the system has been used.

Reserve power cannot be used to continue multi-turn charging begun in a previous turn because, if energy was not allocated at the start of the current turn, the charging sequence was aborted.

NOTE: None of these systems are in the *Star Fleet Battles Basic Set* although some weapons (H7.53) have similar restrictions. Wild weasels are covered under (J3.122). Also note that power from batteries used during Energy Allocation is not reserve power and avoids these restrictions.

(H7.33) ELECTRONIC WARFARE: Reserve power can be used to increase electronic warfare (D6.312) levels (within other limits), but this can only be done in the Fire Decision Step; see (D6.315). Reserve power cannot be used to adjust EW at other points (such as between the point when direct-fire weapons fire is announced and the point when it is resolved or between the point when a seeking weapon enters the target's hex and when the explosion of that weapon is resolved).

(H7.34) SHIELDS: Reserve power can be used to raise or reinforce shields under certain conditions.

(H7.341) Reserve power can be used to raise shields after a transporter action has been declared and before it is resolved (G8.23).

(H7.342) Reserve power can be used to reinforce a specific shield (D3.342) even after damage is scored (i.e., the number of damage points is known) on that specific shield and before the damage is applied (H7.134). It cannot be used to raise them (H7.345) in this case.

(H7.343) Reserve power can be used to provide general reinforcement (D3.341) after a transporter action is declared or completed (G8.23). Note that this can be done only in increments of two energy points.

(H7.344) Reserve power can be used to provide general reinforcement, even after damage is scored on the ship (i.e., the number of damage points is known) and before the damage is applied (H7.134). This would normally be done only in the case of damage to a down shield. Note that this can be done only in increments of two energy points.

(H7.345) Reserve power *cannot* be used to raise shields (or to increase minimum shields to standard shields) after damage has been scored and before it is resolved, but could be used to reinforce a (minimum or standard) shield at that time (H7.342).

(H7.346) Andromedan PA Panels use the same procedure as shields. Increasing PA panels from standard to reinforced level is considered reinforcement, not an increase in level. Raising them from inactive to either standard or reinforced level is raising, not reinforcing, PA panels.

(H7.35) PROHIBITED USES: Reserve power cannot be used for Damage Control (D9.0), Repair (G17.0), Emergency Damage Repair (D14.0), or braking energy (C3.53).

(H7.36) BATTERIES: Unused reserve power remains in the batteries (or goes to the batteries in the case of reserve warp or impulse power) at the end of the turn. The player may channel some or all this power into the phaser capacitors if there is space in the capacitors for the power. Also note that power from the batteries can be sent to phaser capacitors on the same turn that the capacitor is emptied by firing the phasers. This is a particular tactic used by Andromedans to create extra room in their batteries to put power from the panels into. This redirection of reserve power takes place in the Repair Stage of the Record-Keeping Phase. After the end of the turn, power in the batteries loses its status as reserve warp (or impulse) power and cannot be used for warp-required or movement-related expenditures on the next turn. [Exception: Second-Generation X-ships (H5.5).]

(H7.37) ANNOUNCEMENT: In general, players are not required to announce that they are using reserve power to perform a particular action. This expenditure may become apparent when the action is taken or, if the enemy is tracking your power expenditures, he may realize what you have done toward the end of the turn. Records of this expenditure must be kept and produced at the end of the game; this is particularly critical in competitive gaming such as tournaments.

(H7.38) DESTROYED BATTERIES: If the battery is destroyed before the power is used, the reserve power (warp or non-warp) is lost immediately and cannot be used later. Because of this, batteries are key targets for hit-and-run raids (D7.8).

NOTE: This power could be allocated under (H7.134), but that could only happen before damage was allocated.

(H7.4) RESERVE WARP POWER AND OTHER SPECIAL FORMS OF RESERVE POWER

(H7.40) TYPES OF RESERVE POWER: Those systems which require the expenditure of warp power (such as overloading normal photon torpedoes just before firing them) can use the reserve power system only under the conditions described in this rule. Specific terms used herein are defined as follows:

- Reserve Power: Can be from any source.
- Reserve Warp Power: Can come from warp engines or warp reactors.
- Reserve Warp Engine Power: Reserve warp power that comes only from warp engines.
- Reserve AWR Power: Reserve warp power that comes only from auxiliary warp reactors. This can be used for anything except movement-related functions.
- Reserve Impulse Power: Reserve power that comes only from impulse engines; see (H7.47).
- Reserve APR Power: Reserve power that comes only from APRs. This cannot be used for any function that specifically requires warp or impulse power.

It is theoretically possible that a single battery might be holding fractional points of power from several or all of the above sources.

(H7.41) BATTERIES: Some warp power can be allocated to recharging batteries; see (H7.43). This cannot be more than the capacity of the discharged batteries. This specific warp power, and no other warp power, is treated as reserve warp power. Otherwise unallocated warp power cannot be used as reserve power. Note: Warp power from AWRs is restricted by (H7.45).

(H7.42) POSSIBLE USES: Reserve warp power and reserve AWR power can be used for anything that normal reserve power can be used for. In addition, it can be used for non-movement warp-specific purposes (e.g., photon torpedoes, arming probes as weapons, displacement devices, arming suicide shuttles, etc.).

Reserve warp engine power can be used for any of the above plus for movement-specific purposes, such as to increase speed (C12.24), conduct EM (C10.113), execute tactical warp maneuvers (C5.2), or perform an HET (C6.22).

Unused reserve warp power is used to recharge the batteries at the end of the turn and ceases at that point to be treated as reserve warp power. See (H7.36) and (H7.43). There is an exception for Second-Generation X-ships in (H5.5).

Reserve warp (or impulse) power cannot be used for braking (C3.53).

(H7.43) ENERGY CYCLE: Batteries can be discharged and energy allocated to recharge them at the same time. The most common procedure is to use whatever power is in the batteries for various functions (which cannot include recharging batteries) during Energy Allocation, and then to allocate warp engine power to recharge the batteries. That warp power is then treated as Reserve Warp Engine Power (H7.41), which is the most flexible type of reserve power.

This is a very common practice, and it is regarded as a "standard operating procedure" when there is sufficient unallocated warp power available. Players are not required to use this procedure, but are advised that doing so will provide the maximum amount of reserve warp engine power, which is the most flexible type.

EXAMPLE: A Federation CA, which has four batteries, could discharge them (for systems that don't require warp power) during the Energy Allocation Procedure and assign four units of warp engine power to recharge the expended batteries. (It can be presumed that the other 26 units of warp engine power are used for movement, photon torpedoes, etc.) These four points of reserve warp engine power can be used for any purpose that reserve power can be used for, plus they can be used for those operations specifically requiring warp power (such as overloading the photon torpedoes).

The player could have chosen, during the Energy Allocation Phase, to leave the four batteries charged and to use the four units of warp engine power for systems that do not require warp power, but in that case his reserve power would be limited to non-warp and non-movement functions.

(H7.44) ANNOUNCEMENT: Players are not required to announce the use of reserve warp power to increase the speed of the ship (or the number of warp Tactical Maneuvers). The increase in speed will be noticed, but by appearances could theoretically have come from original allocations using (C12.0).

(H7.45) WARP REACTORS: Power from AWRs (H4.3) cannot be used for movement or movement-related functions (Erratic Maneuvers, High Energy Turns, Tactical Maneuvers, etc.), even if used as reserve power.

Similarly, "reserve AWR power" could be used for any warp-specific purpose except movement-related purposes.

(H7.46) DESTROYED BATTERIES: If the battery is destroyed, the associated reserve power is lost; see (H7.38) for specifics.

(H7.47) RESERVE IMPULSE POWER uses the same procedures as reserve warp power but is limited to impulse functions, such as Erratic Maneuvers (C10.113) and other non-warp functions. If the ship did not allocate impulse power for movement, using one point of reserve impulse power would increase the speed of the ship by one for the remainder of the turn; see (C2.111) and (C12.25). Reserve impulse power can also be used for sublight Tactical Maneuvers (C5.1) which can be important, as warp and sublight Tactical Maneuvers can follow each other.

(H7.48) USE OF RESERVE WARP POWER: The following examples are provided as tactical advice. They are not the only uses for reserve warp power.

A. High energy turns are the #1 use of reserve warp (engine) power. As many ships do not have sufficient battery capacity to pay for an HET, this is often combined with Contingent Reserve Power (H7.6).

B. Reserve warp power can be used to overload photon torpedoes (or other weapons) at the instant of firing. This provides increased flexibility in that the position of the enemy cannot be predicted. If the enemy is beyond eight hexes, it would be a waste to have overloaded weapons in the tubes when they cannot be fired.

C. Another use of reserve warp engine power is to allow the ship to perform tactical warp maneuvers (C5.2) after stopping with emergency deceleration (C8.0) or when halted during part of the turn using (C12.0).

D. Reserve warp engine power can be used to increase speed (C12.24) in mid-turn.

E. Reserve impulse power can be used for a large ship (those with move costs larger than 1.0) to allow it to begin Erratic Maneuvers (C10.113) for less energy than reserve warp would require.

(H7.49) Reserve warp power can be used to execute a High Energy Turn before allocated power for such an HET is used. If the allocated power is never used, it would simply be lost. An Andromedan ship would treat such allocated power as never generated under (D10.74).

(H7.5) USE OF RESERVE POWER FOR WEAPONS

(H7.51) TIMING: The use of reserve power does not permit violations of the timing rules of weapons. For example, a phaser-1 could not fire twice in one turn, once with energy originally allocated to the capacitor and again (or previously) with reserve power.

EXAMPLE: A phaser-G has been fired three times thus far in a turn. The capacitor is emptied by a phaser-1 on Impulse #26 before another firing opportunity presents itself for the phaser-G on Impulse #30. Rather than pass up the shot, the player moves 1/4 point of reserve power to the capacitor and fires. Early in the next turn the phaser-G fires twice more (using newly allocated power) on Impulse #3 and once more with reserve power on Impulse #4. It can not fire a fourth time until Impulse #6 (E2.15), regardless of whether it will use allocated or reserve power to do so.

(H7.52) SINGLE-TURN ARMING: Reserve power can be used to arm a one turn weapon, whether about to fire or not. Such a weapon cannot be armed with reserve power on a turn it has already fired.

(H7.521) Gatling phasers are an exception to this rule; see the example in (H7.51).

(H7.522) Energy can be transferred into a phaser capacitor (assuming that it has the capacity to hold it) whether the phasers are being fired or not.

(H7.523) Reserve power cannot be transferred to a fusion beam during the cooling turn; see (E7.22).

(H7.524) While maulers use batteries (E8.32) to fire (E8.12), this is more correctly under their own rules than as reserve power.

(H7.525) Reserve power cannot be used to fire a weapon which was fired or discharged on the same turn. For example, an overloaded weapon could not be discharged and then fired with reserve power after learning that the enemy will not be within overload range.

(H7.53) MULTI-TURN ARMING weapons can begin arming with reserve power, but cannot do so on a turn during which the weapon has been fired (or ejected). Exception: PPD (E11.23) and (E11.24).

(H7.531) Reserve power cannot be used to continue multi-turn arming begun in a previous turn because, if the energy is not allocated at the start of the current turn, the arming sequence is immediately aborted. The same is true of holding energy. Remember that the energy provided by a battery during the Energy Allocation Phase is considered to be allocated power, not reserve power (H7.11); it may be used to continue the arming of a multi-turn weapon (if it doesn't require warp energy).

(H7.532) A two-turn arming weapon cannot be fired within eight impulses of the point at which arming was started with reserve power. For example, a photon torpedo might receive two points of reserve warp power on Impulse #32 of Turn #6, then two points of allocated warp power during the Energy Allocation Phase of Turn #7, but it could not be fired before Impulse #8 of Turn #7.

(H7.54) OVERLOADS: Reserve power can be used to provide overload energy to a weapon, whether about to fire or not (assuming the weapon has an overload function). This includes additional overload energy to a weapon, such as a photon torpedo, with variable overload levels.

See (E11.63) for specifics in the case of PPDs.

The application of reserve warp power to overload a photon torpedo would not increase the holding cost unless the torpedo is held until the end of the turn, when the cost would be increased for the next turn; see (E4.412).

(H7.55) PLASMA TORPEDOES: Reserve power can be used in several special ways for plasma torpedoes. See (FP1.9).

(H7.6) CONTINGENT RESERVE POWER

(H7.61) CONCEPT: For increased flexibility, players can use the contingent reserve concept. Under this procedure, part of the energy cost of a desired action is paid during Energy Allocation, with the remainder supplied by reserve power only when and if the action is performed. The player is not required to provide the remainder; see (H7.62). A partial list of functions that can be allocated in this manner includes: HET, EM, weapons, etc.

EXAMPLE: A ship requires five points of power to perform an HET. The player allocates three points and supplies the other two points from reserve warp engine power only when (and if) he is ready to perform the HET.

EXAMPLE: Shield reinforcement requires whole points of energy. A player could allocate a fractional point of power to a given shield. If the shield is then hit by damage, the player could either provide the remaining fractional point of reserve power to block a point of damage, or not apply the fractional point. If the fractional point of reserve power is not applied, the allocated fraction is lost when the shield is damaged with no reduction in the damage to the shield. Note that such a contingenty allocated fractional point of specific allocation reinforcement might be kept inactive to be used on some subsequent damage step of the turn, but if the shield were to be destroyed before it was used, the fractional point would be lost.

(H7.62) LOSS IF INCOMPLETE: The player is not required to complete the contingent allocation. The player could decide not to supply the remaining power, could use his reserve power elsewhere, could have lost his batteries to damage, or (D22.0). If the reserve power is not supplied, the power allocated for that function is irrevocably lost at the end of the turn.

(H7.63) RESTRICTED USES: This procedure cannot be used for functions which require continuous power supplies. For example, you could not allocate part of the operating cost of an operating cloaking device because without full power the device would immediately cease to function and the ship would be exposed. (An uncloaked ship that wanted to allow for cloaking later in the turn could, of course, use the contingent reserve procedure to pay part of the cost of a future activation of the device.) Similarly, the ship cannot pay part of the cost of holding a torpedo because, if the entire cost is not paid, the torpedo will be ejected.

(H7.64) OVERLOADS: Contingent reserve power does not escape the provisions of weapon overloading rules. Allocating power to partially overload a weapon irrevocably results in an overloaded weapon, which cannot (unless noted otherwise, as in the case of photon torpedoes) be fired unless the full amount of energy is provided (presumably by reserve power) and cannot be un-overloaded. Thus, this procedure should not be used by a player who is uncertain if the target will come into overload range, as the weapons would be limited to that range with the first point of allocated overload power. A better tactic would be to fully-overload some weapons and count on reserve power to overload others.

(H7.65) SIMILAR USAGE WITH CAPACITORS: Some weapons or other systems have capacitors able to hold power; e.g., phasers and ESGs. An effect similar to contingent reserve power can be created. For example, a player could allocate 1/4 point to his phaser capacitors (on a ship with only ph-2s), knowing that he must provide the other 3/4 points from reserve power or the phaser-2 cannot fire. If the other 3/4 points are not allocated, the 1/4 point remains in the capacitor for the next turn. Note: The player could have provided 1/4 point of reserve power and fired the ph-2 as a ph-3 under (E2.25).

(H8.0) VUDAR IONIZATION SYSTEM

Vudar Ion Cannons (E21.0), Ion Pulse Generators (G36.0), Ion Storm Generators (G37.0), and the Ion Pulse Cannon Freezers (E22.0) for their fighters require ionized energy to operate. Vudar ships and bases generally have no more direct sources of ionized energy than non-Vudar ships, as most power generating systems on such units are needed to generate and operate within a warp bubble. What Vudar ships and bases do have is a system built into their energy distribution network which "ionizes" power in the system. Ionizing power is not done without cost, i.e., it requires power in order to ionize power.

(H8.1) IONIZED ENERGY: Ionized Energy can be provided by an impulse engine, or by Vudar APRs, i.e., an APR that is original equipment on a Vudar ship, and includes any APRs on a ship captured and converted to their use. This category also includes impulse engines hastily repaired as APRs on Vudar ships. Warp engines and AWRs cannot provide Ionized energy directly, including AWRs hastily repaired as APRs.

(H8.2) ENERGY IONIZATION: Any energy that is not ion energy as given in (H8.1) can be ionized (this includes energy from warp engines, AWRs, AWRs repaired as APRs, and power stored in a battery including power stored on a previous turn but being used in a current turn). The cost any given ship pays to ionize energy will be noted on its SSD in its Ship Data Table as a separate line. The energy used to ionize energy can itself be from any source.

(H8.21) Regardless of the size of the ship, the number of ion systems it wants to arm, or the amount of energy it has to convert on a given turn, the ship must pay its ionization cost or be limited to the ion power produced by its impulse engines and APRs.

EXAMPLE: A Vudar War Destroyer at WS-0 encounters an Orion Outlaw War Destroyer. The Vudar DW has four points of impulse power and two points of APR. The ship is armed with three ion cannons and one IPG. The Vudar captain has no trouble readying his ship for combat. Allocating four points of impulse to completely arm his IPG, and using the two points of APR to provide the point of ionized energy each needed to arm two of his ion cannons. He can defer providing the point of ion energy needed by the third ion cannon to the following turn. So the first few turns he will not need to pay the Ionization surcharge.

During Turn #5 the Vudar captain observes that the Outlaw has downed one of his shields and internal damage has destroyed one of his ion cannons, as well as both his APRs and one of his impulse engines. The captain needs to rearm his ship for the next battle pass. His ship has only three points of normal ionized power available. To fully re-charge the IPG will take four points, and each of the ion cannons will require at least a point. He could provide the ion cannons with their point of power on the following turn, but that would still mean that the IPG was not fully charged. The Vudar captain decides that on this turn he will "ionize" power from his warp engines. To do this, the ship pays an additional 0.50 points of power (the ionization cost of the DW is a half-point of power). By paying this half-point of power, the DW can consider any given points of power provided by the warp engines (or drawn from power in the ship's batteries) as ionized power (but not "impulse power", i.e., it cannot be used to do an "impulse Tactical Maneuver"). The captain then allocates four points of ionized power to the IPG, and a point each to the two ion cannons. During the next turn he will not need to pay the ionization cost again as all systems requiring ion power have already received the needed amounts.

(H8.22) Energy being transferred from one unit to another unit to which it is docked, can be ionized by either the sending or receiving unit. The cost of the ionization is not counted as part of the limit on the amount of energy that can be transferred (C13.411).

(H8.23) If a given unit has paid to ionize energy, any reserve or battery power (e.g., reserve power or power stored in a battery on a previous turn) can be ionized at the instant it is applied, e.g., to overload an ion cannon. If a given unit has not paid to ionize energy and wants to use reserve power for a function requiring ionized power, it can use some of its reserve power to pay the ionization cost. A unit doing this may not have enough reserve power to both ionize the energy and perform the desired function.

(H8.24) If unit has paid its ionization surcharge, perhaps to arm two ion cannons and an IPG, and then in mid turn wants to use reserve warp or just plain battery power to arm another ion cannon (or IPG) it does not have to pay the surcharge again. It has already paid it during Energy Allocation and the system is active for the turn. Overload energy could be added mid-turn from reserves directly if the surcharge was paid that turn, but the surcharge will have to be paid from the reserve if it was not paid during Energy Allocation in order to allow a held torpedo to be overloaded.

EXAMPLE: A Vudar War Cruiser is engaged in heavy combat. At the start of the current turn, the ship used its available APR and impulse power to arm its ion cannons and filled its batteries with reserve warp power. One of its two IPGs has no energy stored or allocated to it. During the turn the captain uses the armed IPG in defensive ionic mode to protect the ship from a drone strike, but sees that a Klingon D5 is closing to overrun him with overloaded disruptors. The captain did not activate the ionization system during Energy Allocation (saving the power for an extra hex of movement), but decides now that he has made some bad choices. He now allocates 2/3rds of a point of power from his reserve energy to activate the ionization system, and ionizes three of the three and 1/3rd points remaining in the batteries and sends those points to his second IPG so that he can activate it in jamming mode.

(H8.25) Holding energy does not require the surcharge, i.e., a ship holding an Ion Cannon or IPG, or with ion charges held ready in freezers for its fighters, does not require the surcharge.

(H8.26) The cost to operate the ionization system is not reduced due to damage, or because the given unit only needs a single point, or fraction thereof, of ionized energy for a given purpose.

(H8.27) There is no separate cost to provide ionized energy for the freezers of fighters on a carrier. The carrier pays its ionization cost and can ionize any energy it desires for use by its own weapons or for the ready racks of its fighters.

(H8.3) IONIZATION SYSTEM: The system is considered integral to Vudar units, or to non-Vudar units converted to Vudar technology. The system itself cannot be destroyed other than by the destruction of the Vudar unit, and is not shown on the SSD itself.

(H8.31) Systems requiring Ionized energy can be cut off from sources of ion energy by having enemy boarding parties controlling an area between (or including) the system and sources of ion energy (D16.0). In such case the ionization system cannot provide ion power through the area controlled by enemy boarding parties, but can provide it through contested areas.

(H8.32) If a system requiring ionized power is destroyed, it can be hastily repaired at a cost of one repair point less than its nominal repair cost.

(H8.321) If repaired in this manner, the system will not be connected to the ionization system, and can only be armed with energy from normal ion sources. For example, an ion cannon normally requires seven repair points to fix, and can be hastily repaired for six repair points but will not be connected to the ionization system, i.e., will only be able to receive ion power directly from any APRs or impulse engines on the unit. Such hasty repairs must be recorded.

(H8.322) This hasty repair system cannot be used to repair fighter-shuttle or MRS-shuttle boxes on the ship, the ready racks in such shuttle boxes must be fully repaired and connected to the ionization system to function.

END OF SECTION (H0.0)

NOTE: The Letter "I" is not used in the *SFB* rules numbering system because of possible confusion with the numeral "1."

(J0.0) SHUTTLECRAFT AND FIGHTERS

Shuttlecraft are small (ten meters long) spaceships carried inside the larger starships. Their primary purpose is administrative, carrying personnel, supplies, equipment, mail, etc., from the ship to other ships or the surface of planets. In combat situations, however, these craft are often used for many other purposes.

In later years, highly developed armed shuttlecraft (termed "fighters") were often used to increase a ship's firepower. These fighters became an important factor in the defense forces assigned to bases and planets.

It should be noted that fighters are not within the "original source material" for the game background. Some players may find this addition to the background to be offensive to their sensibilities and may choose to ignore fighters entirely. This can be accomplished by ignoring rules (J4.0), (J5.0), (J6.0), (J7.0), [possibly (J9.0)], and (J10.0), as well as all carriers and carrier escorts. This will probably also require deletion of the Hydrans (in *Module C1*, or at least most of their ships) and various extensive adjustments in the campaign systems which are left to players making such a decision.

Basic Set includes the standard shuttlecraft, often known as "administrative shuttles" or "utility shuttles," and the Kzinti AS (or AAS) fighter. *Advanced Missions* and *Module J* include many more fighters, carriers, and escorts.

DEFINITION: The term "shuttle" (which is interchangeable with "shuttlecraft") includes both non-combat shuttles (the most common of which are "administrative shuttles") and "fighters." Administrative shuttles are the large, box-like transport shuttles used to carry personnel and perform other tasks; fighters are generally single-seat attack craft designed only for combat. Sometimes, for emphasis, the term "shuttles (including fighters)" is used; this does not indicate that fighters are not included within the generic term "shuttle" in any other cases.

(J1.0) GENERAL RULES

Shuttlecraft are not ships, but a separate type of unit. They operate within a different set of rules, which are presented here.

(J1.1) ENERGY

Shuttles do not fill out an Energy Allocation Form. They do not use the energy allocation system to move or fire their weapons or to perform any other function. Some special systems (e.g., wild weasels, suicide shuttles, fighter non-phaser energy-weapon reloads) require power to be allocated by the ship which is operating the shuttles.

(J1.2) MOVEMENT

The movement rules for shuttles are considerably simpler than those for ships.

(J1.21) SPEED: Shuttles are assigned a maximum speed based on their type; this is shown on Annex #4 Master Fighter Chart. Shuttles may move at any speed up to this maximum, but must announce their speed at the start of each turn (when ships do). If no speed is announced, the maximum speed is assumed.
(J1.211) Shuttles can change speed in mid-turn using (C12.34). If you only have *Basic Set*, shuttles remain at their announced speed for the entire turn. Shuttles can, by manipulating speed changes, actually move more hexes in a turn than their listed maximum speed.
(J1.212) Shuttles are destroyed if towed by tractor beam at more than twice their currently allowable maximum speed; see (G7.54). This speed is judged without the effects of: warp booster packs (J5.21), ECM pods (J4.9621), or pilot status (J6.2). Crippled shuttles are destroyed at a lower speed; see (J1.331). This is known as "death dragging" to veteran *SFB* players. See (J4.121) for the escape maneuver fighters can use. Fighters can reach Speed 31 through the use of Ace pilots (J6.23). The use of an ace pilot is the only way fighters able to move Speed 15 can achieve Speed 31. A fighter with a warp booster pack does not change the speed at which it is death dragged (J5.21), i.e., if the Speed 15 fighter is moving Speed 31 either because it has a warp booster pack and an ace pilot, or a megapack (J16.21) and an ace pilot, it will still be death dragged if it is tractored by a ship or PF that is moving Speed 31 (G7.54) [assuming it does not execute a tractor breakaway (G7.55)]. Fighters able to move faster than Speed 15 (Stinger-X, some variants of the F-104) can also only achieve Speed 30 with a warp booster pack or megapack, and Speed 31 only with an ace pilot, but are immune to death dragging (as long as they are not crippled) whether there is an ace pilot, warp booster pack, or megapack, or not.

(J1.22) ACCELERATION, DECELERATION: A shuttle may accelerate by up to one-half of its maximum speed (round up) at the start of a given turn (up to its maximum speed). This maximum speed is not adjusted for warp packs, damage, pilot quality, EW pods, etc.
(J1.221) A shuttle may be launched at its maximum speed, as adjusted for damage, warp packs, pilot quality, EW pods, etc.
(J1.222) A shuttle may decelerate by any amount (between turns); deceleration during a turn is limited by (C12.34).
(J1.223) A shuttle or fighter can use emergency deceleration (C8.0), but the lost movement points produce no "shield benefit." See (J4.13) in the case of fighters.
(J1.224) The total acceleration (and deceleration) during a turn under (C12.34) may not exceed half of the maximum speed as defined in (J1.22). Acceleration and deceleration is based on the speed of the shuttle without the effects of warp booster packs. The one activation or deactivation of warp packs allowed during the turn (J5.14) is in addition to the normal number of speed changes and the acceleration/deceleration limits.

(J1.23) TURN MODE: All shuttles have a Turn Mode of one at Speeds 1-11, a Turn Mode of two at speeds of twelve-to-23, and a Turn Mode of three at speeds of 24 and higher. A manned shuttle can change facing by one or more hex sides on Impulse #32 of any turn in which it did not move. (This is done as an HET, even if the shuttle cannot normally perform an HET.)

(J1.24) REVERSE MOVEMENT: Shuttlecraft cannot move in reverse. (They can, of course, be pulled backwards by a black hole or tractor.) Remember, "shuttlecraft" includes fighters; see (J0.0).

(J1.25) NIMBLE UNITS: Shuttles are "nimble units" (C11.0). Shuttles may, as a consequence of this status, use Erratic Maneuvers at a cost of one point of speed (C10.13) among other benefits. They can land on planets; see Annex #7B.

(J1.26) MANEUVER ON LAUNCH: Shuttles may change speed or make a High Energy Turn after launch without waiting for the required "delay" from a "previous" such maneuver. These actions are taken within the rules and within the normal Sequence of Play. The Turn Modes of shuttles are not satisfied at the time of launch. Shuttles may be launched on Erratic Maneuvers (i.e., begin performing EM at the instant of launch). [Note: As of the date of this edition, no non-fighter shuttle in the game system could perform an HET.]

(J1.3) COMBAT

All shuttles are capable of participating in combat. Some are capable of surviving combat. Fighters can even participate offensively.

(J1.31) WEAPONS: Shuttles carry weapons as specified by the rules on each type of shuttle and by the Master Fighter Chart (Annex #4). No shuttle (including fighters) can fire a direct-fire weapon to a range of more than fifteen hexes. (Some weapons have shorter ranges specified, for example, photons are limited to Range 12, disruptors to Range 10.) This range limit is not adjusted by pilot status. Shuttles with multiple direct-fire weapons can fire any or all of them on any impulse at one or more targets in arc unless specifically prohibited from doing so by their own rules. A shuttle armed with direct-fire and seeking weapons can launch the seeking weapons at the same or a different target that it fires direct-fire weapons at on the same impulse.

Shuttles can use passive fire control; see (D19.27).

All shuttles have a sensor rating of six (D6.133) and a scanner rating of zero (D6.22). See also (J1.333).

(J1.32) DAMAGE: Shuttles can be fired at by any weapons. This fire may be adjusted for range; see (E1.7).

(J1.321) As shuttles do not have SSD sheets with boxes for engines, weapons, pilot, etc., damage is not "allocated," but simply recorded for each shuttle. All ships have a track to record damage points on their shuttles, and many carriers have "mini-SSDs" for their fighters (damage check-off boxes arranged in the shape of a fighter) on their own SSDs.

(J1.322) Each type of shuttle has a specified "destruction point," that is, a number of points of damage that will destroy it. When the number of points of damage scored on a given shuttle equals or exceeds this destruction point, the shuttle is destroyed and removed from the game.

(J1.33) CRIPPLING: Shuttles are considered "crippled" when the number of damage points scored on them equals or exceeds 2/3 of their destruction point. (Round fractions to the next larger whole number when calculating the number of points required for crippling; a shuttle destroyed by eight damage points is crippled by six.) The following penalties take effect immediately after the step in which the crippling damage was received.

(J1.331) SPEED: When a shuttle is crippled, its maximum speed is reduced to 1/2 of its rated maximum (round fractions up; a shuttle with a speed of eleven can move six when crippled).

(J1.3311) The current speed, if more than the new crippled maximum, is immediately reduced to that crippled maximum. This is considered a speed change under (C12.34), and while it may occur at less than the required interval from the previous change, the next change must wait the required interval from the point of a speed change required by crippling.

(J1.3312) A crippled shuttle can be destroyed by tractor beam when towed at a speed exceeding its original maximum speed; see (J1.212).

(J1.332) WEAPONS: All weapons carried externally on a crippled shuttle (drones, type-D torpedoes, EW pods, other external weapons added later) must be dropped. All internal weapons (including EW pods) except phasers cease to operate. The standard chaff carried on a fighter (D11.0) is unaffected.

(J1.3321) All phasers (including ph-Gs) on crippled shuttles are reduced to phaser-3. No more than one phaser can fire into each arc. If two phasers have the same arc (e.g., F-18), one ceases to function. If the arcs overlap completely, the one with the smaller arc ceases to function. If the shuttle has phasers with BS arcs, these remain and any others cease to function. If the shuttle has FX and RX phasers, both remain but the RX is reduced to RA. If a gatling phaser has fired three or fewer times during earlier portions of the turn (that it was reduced by crippling), the resulting phaser-3 can fire later during that same turn. The firing arcs of phasers remain unchanged except as specified herein.

(J1.3322) EW systems (EW pods, MRS, SWAC) cease to function if the shuttle is crippled. Built-in EW points continue to operate.

(J1.3323) The drones on a scatter-pack are not dropped; see (FD7.48). This includes plasma-Ds on a fighter-SP. Crippled suicide shuttles do not jettison their bombs.

(J1.3324) Any armed non-phaser energy-using weapons are discharged (E1.24).

(J1.333) SENSORS: The sensor rating of a crippled shuttle is not reduced (D6.133). A crippled shuttle can control seeking weapons (assuming it could before it was crippled). A crippled shuttle can receive EW lending, but cannot loan EW points.

The scanner factor of shuttles (D6.22) is not reduced when they are crippled.

(J1.334) REPAIR: The effects of crippling are removed when the shuttle is repaired to a point exceeding the crippled level. This can be done by deck crews or repair systems, but only in a shuttle bay or a shuttle-link (J1.56). Exception: Legendary Engineer (G22.45).

(J1.335) CAPTURE: A crippled shuttle in an enemy shuttle bay is easily captured by boarding parties; see (D7.632).

(J1.336) MANEUVER: A crippled shuttle cannot perform an HET (C6.42) or EM (C10.15).

(J1.34) RESTRICTIONS ON LAUNCH: Newly launched shuttles are under various restrictions. These restrictions apply if launching from a friendly or enemy ship and regardless of the manner of launch, whether from bay, balcony, or mech-link. Remember that all "fighters" are "shuttles."

(J1.341) SEEKING WEAPONS: A shuttle cannot launch or guide seeking weapons until 1/2-turn (sixteen impulses) after its most immediately previous launch. See (J4.31). Exception: Scatter-packs can release their seeking weapons after 1/4 turn; see (FD7.33) and (FD7.44).

(J1.342) DIRECT-FIRE WEAPONS: A shuttle cannot fire direct-fire weapons for 1/4 turn (eight impulses) after its most recent launch. See (J4.32).

(J1.343) OTHER SYSTEMS: A shuttle cannot loan EW points, lay (R1.F6) or sweep (R1.F2) mines, or collect information for 1/4 turn (eight impulses) after its most recent launch. See (J4.33). A web spinner (G10.24) can perform that function immediately upon launch. A shuttle can receive EW lending immediately upon launch.

(J1.344) PASSIVE LAUNCH: A shuttle is considered to have active fire control on launch unless the owning player announces otherwise. If the shuttle is launched on passive fire control (D19.0) it will not be able to activate its fire control until the Sensor Lock-On Phase (4) of the following turn (D19.27). The shuttle will be treated as having been launched on Impulse #1 of that turn for the above restrictions.

(J1.4) RECORD KEEPING

Each SHUTTLE box on the SSD represents the capacity to operate one administrative shuttle or fighter.

Exceptions: Poor crews (G21.133) cannot use some of their shuttles; overcrowding (J1.64) and crash landing (J1.65) allow extra shuttles to be taken into the bay.

In some cases the boxes on the SSD are differentiated as to one type or the other; in other cases the number of each type is shown in the ship specification in section R.

(J1.41) SSD BOXES: The box on the SSD represents both the shuttle and its space in the hangar bay.

(J1.411) When a shuttle is launched, the corresponding box on the SSD is marked with a dot (or any other convenient mark) indicating that the shuttle has been launched. The number of undestroyed boxes on an SSD will indicate the carrying capacity of the ship, while the number of boxes without special marks will indicate the number of shuttles still on board.

(J1.412) When a shuttle hit (point of internal damage allocated to shuttle) is scored, the owning player may score it against a shuttle box that contains a shuttle (destroying the shuttle and the capacity to operate it) or one that does not, at his option. See (J10.13) in the case of heavy shuttles.

(J1.413) When a hit-and-run raid (D7.8) is launched against a shuttle bay (or at the start of each turn, if the players wish), the owner (of the ship the bay is on) notes (on scratch paper) each of the boxes in that bay and what is in it (damaged fighter #3, scatter-pack, wild weasel being charged, empty, fighter being guarded by Marine Squad #2, etc.). The player conducting the hit-and-run raid then rolls a die to determine which box his marines actually landed in; more than one may have landed in the same shuttle box. Each raids independently in an exception to (D7.84). (If there are six or fewer boxes, one die roll will suffice; re-roll if the result is more than the number of boxes. If there are more than six, divide the bay into groups of six boxes, roll one die to select the group and another to select the box in that group.) The entire record is revealed at the end of the turn. This procedure is used for several rules.

(J1.414) A shuttle box (with a shuttle in it) may be destroyed on an "any weapon" hit; see (D4.324). An empty shuttle box cannot be.

(J1.415) Hits on boxes containing armed shuttles may cause a chain reaction; see (D12.0).

(J1.416) Every shuttle on board the ship is assigned to a specific shuttle box at all times. The box for arriving shuttles is designated when they land. Exception: Overcrowding (J1.64) effectively creates "extra shuttle boxes." See (J1.663) to land shuttles in a destroyed shuttle box.

Shuttles can be transferred between boxes of the same bay [or a different bay, see (J1.59)] during the Record Keeping Phase at the end of the turn.

No more than one shuttle can be in any given box; exceptions (J1.64) and (J1.65).

(J1.42) SPARE SHUTTLES: Most ships have more shuttles on board than they can conveniently operate. Shuttles in excess of the shuttle boxes on the SSD are stored as "spare shuttles" for later use.
(J1.421) The number of spare shuttles on any given ship is shown on the Master Ship Chart (Annex #3).
(J1.422) As it would take 100 turns to bring a stored shuttle to the bay and prepare it for use, these normally come into play only during campaigns where shuttle replacements are not immediately available. Spare shuttles can only be used in a subsequent scenario if the ship has an undestroyed shuttle box for that specific shuttle to operate from.
(J1.423) Outstanding crews (G21.233) can prepare one of their spare shuttles during a scenario.

(J1.5) LAUNCHING SHUTTLES

(J1.50) LAUNCH RATE: A given shuttle bay (J1.51) may not launch or recover more than one shuttle during any given impulse or two consecutive impulses, except as specified herein or in the individual ship descriptions. Note that a given bay can launch OR recover a shuttle, it cannot do both at the same time (in any two consecutive impulses). Some ships have "wide doors", e.g., (R2.13).
(J1.501) Shuttles can be launched facing in any direction. The speed of the launching ship has no effect on a shuttle being launched; this is not the case with a shuttle being landed; see (J1.6).
(J1.502) Dropping a mine from the shuttle bay (M2.11) effectively takes the place of a shuttle launch or recovery.
(J1.503) A shuttle can be launched at any speed; (J1.221).
(J1.504) Shuttles are under various restrictions during the period after launch; see (J1.34).
(J1.505) The speed of the launching ship has no effect on a launched shuttle.
(J1.506) Shuttles launch from planets and ground bases on planets by (P2.412).

(J1.51) NUMBER OF SHUTTLE BAYS: A shuttle bay can consist of one or more shuttle boxes. Each bay is a separate compartment (i.e., room) on the ship designed to service, launch, and recover shuttles.

The number of bays on a ship may be apparent from the SSD (all contiguous boxes are part of a single bay, but on some SSDs a bay is divided into two groups of boxes for artistic purposes), but specific information is given in the technical details for each ship and in Annex #7G (in *Module J)* showing information on carriers. Non-carriers are shown in Annex #7M. Many SSDs include information on the number of bays as part of the Shuttle Track.

(J1.52) LAUNCH-LAND SEQUENCE: A shuttle can launch once per turn. A shuttle can land once per turn. A shuttle can launch and land during the same turn (in either order), but cannot perform either action twice in the same turn. There is a minimum 1/4-turn delay between launching and landing, except that a shuttle may land under (J1.62) less than 1/4 turn after it is launched.

Escape under (D21.41) may be done in violation of these limits.

(J1.53) BALCONY AND TRACK SYSTEM: Certain ships are equipped with a "balcony and track" system. Shuttles may be moved from the bay onto a balcony (on Gorn ships this is usually on the wings) outside the ship by a mechanical track system. Movement from this outside track to and from the hangar bay is limited by (J1.50), but any number (up to the ship's limit) may be landed on or launched from this balcony during a given impulse. This system allows strike groups to be launched and recovered quickly.
(J1.531) If the ship takes damage while shuttles are on the outside balcony, each "rear hull" damage point destroys one shuttle (instead of one hull box), but no chain reactions (D12.0) will occur. This is not an option; the damage point must be scored on the shuttles if any are on the balcony. Shuttles on the balcony cannot fire, and enemy shuttles cannot land or be brought down on the balcony. Shuttles on the balcony cannot be prepared for special missions (WW, suicide, SP), or rearmed or repaired by deck crews (J4.8).
(J1.532) A ship can launch shuttles from the balcony at any speed up to 31. A ship can land shuttles (J1.6) on the balcony at any speed (and by any method) that it could land them in the hangar. Shuttles are moved between the bay and the balcony at the launch/land rate for that bay (J1.50); note that each balcony is associated with a specific shuttle bay. The rate in (J1.50) includes all launch/land and bay/balcony operations; i.e., a given bay cannot land a shuttle and move another one to the balcony during the same two-impulse cycle. [Aces (J6.23) in Speed-15 fighters with warp packs are, in the current rules, the only fighters able to go Speed 31.]
(J1.533) Shuttles can remain on the balcony at any speed up to 31. Any shuttles on the balcony when the ship disengages by acceleration (i.e., exceeds a speed of 31) are destroyed.
(J1.534) Scatter-packs can be held on the balcony; suicide shuttles and wild weasels cannot. The targeting of SPs held on the balcony can be determined on the impulse of launch.

NOTE: Some of those ships equipped with "balcony & track" systems include: all Gorn warships, the Federation CVA (and its SCS variants), most ISC carriers, the Klingon D7V, and the various B10 designs. The description for each ship includes information as to how many balcony positions the ship has.

NOTE TO NEW PLAYERS: The following rules (J1.54) through (J1.57) describe various types of special shuttle bays used by various ships. None of the ships in *Basic Set* uses these systems, so a new player can ignore these rules and proceed to (J1.6).

(J1.54) LAUNCH TUBES: Most Hydran ships (see *Module C1)* and some others (B10V, Kzinti SCS/CVA) are equipped with special launch tubes, allowing them to launch several and recover one shuttle from each bay simultaneously (on the same impulse). Specific information for the launch tubes on each ship is given in the technical notes for each ship.
(J1.541) Launch tubes can be used to launch fighters but cannot be used to recover (land) them. Each launch tube may be used once in any given period of two consecutive impulses. Fighters cannot be transferred to or from a balcony through a launch tube.
(J1.542) Administrative shuttles (including their variants such as MRS, HTS, GAS, MSS, etc.) and heavy fighters cannot be launched through launch tubes.
(J1.543) A shuttle bay may have several launch tubes and a standard shuttle hatch. Recovery can only be conducted through the standard shuttle bay hatch at the rate in (J1.50), which can also be used to launch shuttles. Mines can only be dropped through the standard hatch, not the launch tubes. See also (M2.113).

(J1.55) THOLIAN EXTERNAL BAYS: The Tholian Black Widow-class CVL and CVA (both in *Module J)* carry their fighters in individual external bays. Thus, these ships can launch and recover all of their fighters simultaneously, but cannot launch and recover a shuttle from the same bay within two impulses. Tholian carriers cannot drop mines or T-bombs from their external bays. Also see (J1.642).

(J1.56) SHUTTLE MECH-LINKS: There are two special types of mech-link which can hold shuttlecraft but not PFs.
(J1.561) Certain Federation Ships [e.g., SCS (R3.32), NVH (R2.56)] which are PFT substitutes carry heavy fighters on semi-external mech-links as seen at right. These are used only to hold heavy fighters (e.g., A-20 or F-111 or F-101) and are type-specific (those for A-20s cannot hold F-111s or any other fighter or shuttle).

One box is required for each fighter. These are damaged on shuttle hits (a hit destroys the fighter as well as the box, link, and tractor) but can function as tractor beams (if designated as also being tractor beams, not all such mech-links are also tractor beams). Shuttles launch and land in these links as if they were PF mech-links (K2.2), but are repaired by deck crews as if they were in a shuttle bay. They have ready racks for the specific type of fighter embarked. All of the adjoining mech-links of this type are treated as a single "bay" for purposes of deploying deck crews, but there can be no chain reaction from one fighter to the next.
(J1.562) PF Leaders (K4.1), mine warfare PFs (R1.PF4), and Fi-cons (K1.8) have a type of mech-link (seen at right) which can hold a shuttle or fighter. The rules for this are in the noted sections; shuttles on this type of link cannot be repaired or rearmed. Mech-links of this type are part of tractor beams and are destroyed on tractor hits.

The mech-links on Fi-Cons are not tractor beams, but are simply mechanical linkages that can hold a fighter or shuttle. Fi-Cons will

normally have one (sometimes two) tractor beams to facilitate fighter operations.
(J1.563) Other types of mech-links noted in (K2.24) can hold a shuttle, but cannot repair or rearm it.

(J1.57) SPECIAL CASES: Some ships are noted in their descriptions as having special or unusual shuttle bay arrangements. An example is the Federation CVA (R2.13) in *Module J*. Special rules will be given in each case, as these are unique designs with rules used by no other class.

(J1.58) TUNNEL DECKS: Some ships (e.g., Federation CVS) have doors at both ends of the bay, allowing shuttles to be operated from both doors at the same time. Each hatch operates independently at the full rate in (J1.50). As the shuttles are fairly easy to move around inside the bay, no particular rules are required for accounting for which door the shuttles entered by or departed from. The Kzinti CV, CVS, CVL, MCV, and CVE have two hatches in the bay (one on the bottom of the ship leading into the rear of the bay, one on the front of the lower hull) and operate as tunnel decks.

(J1.59) INTER-BAY TRANSFERS: Some ships with multiple bays have a means of transferring shuttles between the bays internally. (Obviously, any ship can do so by launching a shuttle from one bay and recovering it in the other.) There are two primary types of these systems.
(J1.591) Elevators are often used when the two bays are on top of each other, as in the "double-stacked bays" on the Klingon D7V and some other Klingon carriers.
(J1.592) Horizontal transfers are used when the two bays are on the same level and are joined by a series of hatches, airlocks, and fire doors.
(J1.593) With either system, the procedure is the same. It takes one entire turn, and one deck crew, to move one shuttle between bays. Only one shuttle can be transferred at a time (unless the ship description provides otherwise). The shuttle is considered to be in the original bay for the entire turn for purposes of damage, hit-and-run raids, etc. The shuttle cannot be worked on during the transit turn.
(J1.594) It takes one entire turn (starting with Impulse #1) to move any shuttle to another box (or pair of boxes) within the *same* bay.

(J1.6) RECOVERING SHUTTLES

Shuttles can be recovered (that is, taken back aboard a ship) either by being hauled aboard by a tractor beam or by landing on the flight deck under their own control.

(J1.61) LANDING ABOARD: This procedure is an unassisted landing by the shuttle. The pilot simply flies the shuttle through the hatch and lands on the shuttle bay deck (or balcony, or shuttle mech-link). A shuttle may only land aboard a ship under its own power if both the ship and the shuttle are in the same hex and the ship is not moving faster than the shuttle (current speed of each). If landing aboard an enemy ship, see (J1.63).
(J1.611) Only manned shuttles (those with a crew on board) can land aboard by this procedure. Active suicide or WW shuttles cannot land by this method; they can be landed by tractor beam (J1.62).
(J1.612) While this procedure is most often used to land aboard friendly ships; it can only be used to land aboard enemy ships if one or more of the shields (just which one is irrelevant) and all general reinforcement is down. In the case of an enemy ship, this may involve blasting the doors open or crashing through them; this can be assumed to have happened without any special procedures by the players. The ship has no opportunity to raise or reinforce shields with reserve power. There must be an available shuttle box in which to land, or see (J1.64) or (J1.65). No shield need be dropped to land a friendly shuttle.

(J1.62) LANDING VIA TRACTOR BEAM: A ship can recover a shuttle using a tractor beam, regardless of the relative speeds of the ship and shuttle, if all of the following conditions are met:

1. The ship has a working tractor beam, power has been supplied to it adequate for the range, and the tractor beam is not being used for any other purpose during that turn.

2. The ship is not moving at a speed so fast that the shuttle would be destroyed (J1.212) and (G7.54), even if the shuttle could be landed before destruction nominally occurred. See (J1.505) regarding *launched* shuttles.

3. The ship has an available (empty) shuttle box in one of its bays. See (J1.62), (J1.64), (J1.65), and (J1.66) for exceptions.

(J1.620) BASIC PROCEDURE: The tractor is attached to the shuttle. The shuttle is then rotated (G7.7) into the ship's hex. [This rotation is done during the Recover Shuttlecraft Step of the Impulse Procedure on Impulse #32 and forms a partial exception to (G7.71).] At this point, the shuttle may be pulled into the bay (or onto the balcony or mech-link) and landed. This procedure cannot be used to land shuttles through an atmosphere faster than (P2.44).

(J1.6201) If the tractor was attached to the shuttle at more than one hex range, it will take several turns to pull the shuttle into the bay since it can be rotated only once per turn.

(J1.6202) During the period when held by a tractor, the shuttle is moved along with the ship, paralleling its course. Under the conditions of (G7.9), the shuttle may not fire, launch, or guide any weapon. It can operate its own EW systems and accept lent EW points, but cannot lend EW points or gather scientific (G4.13) information. All of these restrictions are released at the instant that the shuttle is released from the tractor, which can be done voluntarily only in the Tractor Beam Step of the Systems Stage of the Impulse Procedure. Rule (G7.91) is a partial exception.

(J1.6203) There is no obligation to land a shuttle held in this manner and no difference between a friendly shuttle being pulled along for use in a later attack, an enemy shuttle being held for later execution, and a friendly shuttle being landed.

(J1.6204) Any shuttle can be landed by this method, including enemy shuttles (G7.8), unmanned shuttles, derelict shuttles, inert seeking shuttles, active or voided wild weasels, enemy suicide shuttles (watch out!), etc. The same procedure is often used in scenarios to land objects specified for recovery.

(J1.621) SPECIAL PROCEDURE: This much faster procedure can be used in the case of a friendly (manned or unmanned) shuttle. It can also be used for an inert shuttle. This procedure might be used for objects recovered as conditions of a scenario (e.g., a recovered probe drone or log buoy).

(J1.6211) Whenever the Special Landing Procedure is declared to be in effect, the shuttle shuts down its systems and is under the restrictions of (J1.622).

(J1.6212) The ship controls the shuttle. The shuttle moves in the same direction and speed as the ship (paralleling its course as above) but can be pulled one hex closer to the ship (by the ship) each impulse during the Recover Shuttle Step of the Shuttle & PF Stage of the Impulse Activity Segment.

(J1.6213) It can be pulled aboard (into the bay, onto the balcony) on the impulse it is pulled into the hex with the ship, or held indefinitely at Range Zero.

(J1.6214) An enemy shuttle can be landed in this manner with the consent of its owner or if it was captured in a dogfight (J7.73). See also (G7.8).

(J1.6215) This procedure is an extension of the normal tractor rotation rules (G7.7). A ship could tractor a shuttle and drag it along for a period of time as in (J1.620) without using the "landing" procedures or becoming subject to their restrictions, but the ship would only be able to "rotate" the shuttle (i.e., move it in relation to the ship) once per turn, rather than once per impulse. (This is a standard tactic; see the *Tactics Manual*. The shuttle must, of course, be released from the tractor before it can fire or launch weapons.) The shuttle could be "towed" for several impulses before the owning player switches to the "landing" procedure. The first impulse on which the shuttle is moved closer to the ship under the landing procedure marks the instant that the shuttle is subject to its restrictions.

(J1.6216) This procedure cannot be used to rotate drones.

(J1.622) RESTRICTIONS: Certain restrictions and conditions apply to the procedure given above:

(J1.6221) This procedure is for landing purposes only. The shuttle cannot be moved farther from the ship. The shuttle cannot fire, operate EW systems, drop chaff, or control weapons while being moved under this procedure. If a shuttle which has been moved by this procedure is released before it lands on the ship, it is treated as a shuttle that was launched on that impulse. The shuttle cannot "begin the launch sequence" while still held in the tractor.

(J1.6222) Enemy shuttles can be landed by tractor (J1.620), but cannot be rotated at this once-per-impulse rate unless they agree (J1.6214).

(J1.6223) No shuttle can be pulled at this once-per-impulse rate through/into an atmosphere, asteroid, web, planet, moon, or dust cloud hex. Normal tractor rotation is used in those cases. (Obviously, rotation by either method into a hex that would destroy the shuttle could be done but wouldn't be part of a landing procedure.) See (G7.27) for the "forced contact" rule. The shuttle is regarded as having the speed of the ship in each hex it enters when using this system and can trigger a mine.

(J1.63) SHUTTLES LANDING ON ENEMY SHIPS: This can occur by either a shuttle (presumably one carrying marines) landing aboard (J1.61) an enemy ship or being pulled on board an enemy ship (J1.620). Situations under (J1.620) are resolved by (G7.8).

(J1.631) If friendly and enemy shuttles are aboard a ship, and shuttle bay damage is scored on that ship, the players must determine randomly (by die roll) which shuttle box was damaged. Use the procedure in (J1.413).

(J1.632) Shuttle bay hits scored by a shuttle inside an enemy shuttle bay are randomly distributed; see (G7.81).

(J1.633) Shuttles landing on an enemy ship can land in "destroyed" shuttle boxes (J1.66) or empty internal PF mech-links. See (J1.65).

(J1.634) A maximum of one enemy shuttle can land in each bay on any two consecutive impulses. This is independent of friendly shuttle operations (J1.50).

(J1.635) A shuttle in an enemy shuttle bay can launch from that bay under the normal rules.

(J1.64) OVERCROWDING: Shuttles can land on a friendly ship in excess of its nominal shuttle capacity. This allows a ship with its normal full load to accept a shuttle from another ship (for example, carrying a senior officer on an inspection tour).

(J1.641) A ship can land one excess shuttle if it has one-to-three shuttle boxes, or two excess shuttles if it has four or more. This is determined in the case of each bay for ships with more than one bay.

(J1.642) Tholian external bays (J1.55) cannot be overcrowded.

(J1.643) Excess shuttles cannot be rearmed, repaired, or prepared for any special mission.

(J1.644) A ship cannot begin a scenario with excess shuttles except in the case of a published historical scenario.

(J1.645) In the event of damage points scored on the shuttle bay, the first point destroys the first excess shuttle plus a normal shuttle box (and shuttle), the second point destroys the second excess shuttle (if any) plus a normal shuttle box (and shuttle) i.e., overcrowded boxes must be destroyed first and both shuttles and the shuttle box are lost.

(J1.646) A large (double-size) shuttle could land in a single shuttle box by using the "overcrowding" rule.

(J1.647) If the overcrowding is resolved (by launching some shuttles), the others are rearranged in the bay by the crew and none are treated under the overcrowding restrictions.

(J1.65) CRASH LANDING: Shuttles can land in an already occupied shuttle box (of a friendly or enemy ship), but this action results in the crippling of both shuttles. If either shuttle was crippled at the time, the crippled shuttle is destroyed as a result. If either shuttle was damaged, but not crippled, it is still only crippled as a result.

(J1.651) If the shuttles are friendly to the ship, the owning player decides where to land them. If they are enemy shuttles, the specific box used (assuming that no empty boxes are available) is determined randomly by numbering the boxes and rolling a die. However, no box can hold more than two shuttles until all boxes hold at least two. If a third shuttle is landed in a box, it destroys all other shuttles in that box and is itself crippled. Previously crippled shuttles are destroyed, but in either case their occupants can debark immediately as boarders. Destroyed shuttles may cause a chain reaction; see (D12.0).

(J1.652) This action would only be taken in desperation (due to its cost) but might be used to recover the shuttles of a lost carrier or to bring on more friendly boarding parties when a ship was in danger of being captured. Alternatively, it might be used by enemy shuttles landing by (J1.61), presumably to deliver boarding parties, or in the gallant hope of landing on top of the enemy scatter-pack you suspect is being armed.

(J1.653) A double-sized shuttle (e.g., a heavy fighter or HTS) could crash land in a shuttle bay, damaging shuttles in two other boxes. A normal-sized shuttle landing on top of part of a double-sized shuttle could cripple it (or destroy a crippled heavy shuttle). The two boxes must be adjacent.

(J1.654) A shuttle crippled inside the bay does not drop its weapons as it would in space, but (except for an SP) will drop them immediately upon launch. A suicide, scatter-pack, or wild weasel shuttle armed in the bay which is crippled by another shuttle making a crash landing can still be launched. If arming of an SS or WW was not complete, arming is cancelled. A partially-armed SP could be launched, but arming could not be completed.

(J1.655) The presence or absence of warp booster packs has no effect on this rule. Damage points are applied as if there were no WBPs, even if there were.

(J1.66) LANDING IN DESTROYED BAYS: Shuttles can land in "destroyed" shuttle boxes of friendly or enemy ships. (After all, the only thing you need is a fairly flat spot in a large open bay.)

(J1.661) When a shuttle is in a "destroyed" box, that box can absorb another point of internal damage (which will destroy the shuttle).

(J1.662) Shuttles cannot be repaired, rearmed, prepared for special missions, or un-prepared, in a "destroyed" shuttle box. They could load and unload crew, cargo, or passengers.

(J1.663) A "destroyed" box can be overcrowded (J1.64) or the subject of a crash landing (J1.65).

(J1.7) RANGE LIMITATIONS

Shuttles are very short-ranged compared to ships, leading to certain limitations.

(J1.71) DISENGAGEMENT: Shuttles may disengage by acceleration (C7.13) under limited conditions. Shuttles can disengage by separation (C7.2) or sublight evasion (C7.52). Scenario rules could provide for automatic disengagement under (C7.4).

(J1.72) SHUTTLES LEFT BEHIND: Shuttles (including cripples) remaining in play after all friendly ships have been destroyed, captured, or forced to disengage, and shuttles which disengage, are presumed to be destroyed (run out of fuel in deep space) if there is not a planet, base, or ship somewhere relatively close. Because most battles are in the border region (with many bases), and most deep attacks into enemy territory are organized with a "pick up unit" to gather up any retreating fighters (and shuttles, PFs, separated sections, crippled ships, etc.), this is always considered to be the case unless the scenario specifies otherwise.

(J1.73) BASE REQUIRED: Shuttles will not normally be the only unit in fleet scenarios because of their range limits. There must be a carrier, base (of some type), or planet with launch/base facilities present for shuttles to be there in the first place. Scenarios such as (SH9.0) are set within a few million miles of a base station. Shuttles are quite limited in their range when compared to starships.

(J1.8) OTHER SHUTTLE RULES

(J1.81) CAPTURED SHIPS: Shuttles on captured ships are considered to be captured, but cannot fire weapons (or be armed as suicide or SP shuttles) during the remainder of the scenario because of coded safety interlocks. They could be used to escape under (D21.0). Shuttles captured in space can be piloted to a friendly ship or base, but cannot fire weapons or use any special equipment and cannot be used for any special mission during the remainder of that scenario. See (D7.541).

(J1.82) ESCAPE: If a ship is destroyed or activates self-destruction, each of the shuttles on it (excepting those prepared for use as an SS, SP, or WW) has a chance to escape by (D21.41).

(J1.83) SELF-DESTRUCT: Shuttles may self-destruct or surrender just as ships may, should the tactical situation warrant. Under normal circumstances, the situation would only warrant such action if the shuttle were damaged to within two points of destruction or if there were no remaining friendly ships within cruising range. Historically, most shuttle and fighter pilots have chosen to surrender (after destroying their craft) and, with a few notable exceptions, have been treated fairly as prisoners of war. Shuttles that self-destruct or are destroyed do not cause an explosion.

(J1.84) FIRING AT LAUNCHED SHUTTLES: A shuttle on the map may be fired at on the impulse of launch by any weapon which follows shuttle launch in the Sequence of Play. Seeking weapons may not be fired at a shuttle on the impulse (or phase in the Cadet Game) in which the shuttle was launched because seeking weapon launch precedes shuttle launch in the Sequence of Play.

(J1.85) ECONOMIC BPV: The economic BPV of all shuttlecraft and fighters is equal to one-half of the combat BPV listed on the Master Fighter Chart. When dividing the combat BPV in half, round fractions of 0.50 or more up and fractions of 0.49 or less down. Remember that when buying forces for a Patrol Scenario, you purchase fighters at the higher combat BPV and the enemy, when he damages or destroys them, scores points at the lower Economic BPV.

Exception: SWACs (J9.0) have an Economic BPV of 60.

(J1.86) UNMANNED SHUTTLES: In various cases [suicide shuttle (J2.22), scatter-pack (FD7.0), wild weasel (J3.0), and minesweeping shuttles (R1.F2)], a shuttle may be launched without a pilot or crew. In some monster scenarios, it is possible that a manned shuttle may become unmanned, e.g., (SM4.45). A pilot/crew could be transported aboard such a shuttle at a later time as defined in various rules.

(J1.861) Scatter-pack shuttles can be boarded under (D7.62). If a friendly SP is boarded in this manner, it becomes inert and the crew can fly it but cannot fire any of its weapons until it has been serviced in a friendly shuttle bay for 32 consecutive impulses. Enemy fighter-SPs cannot be boarded; if a friendly fighter-SP is boarded (only a single pilot can do so), its weapons will not function until it has been serviced (remained in a friendly hangar bay for 32 consecutive impulses).

(J1.862) Enemy wild weasel and suicide shuttles which are still active are boarded under the procedures given in (D7.61) and (D7.62).

(J1.863) Friendly wild weasel and suicide shuttles which are still active cannot be boarded.

(J1.864) Enemy wild weasel and suicide shuttles which have gone inert or been voided can be boarded under the procedures of (D7.61) and (D7.62) except that capture is automatic; no “booby traps” function [exception (J2.224)]. The shuttle is thereafter treated as a captured shuttle; its weapons cannot be fired and it cannot be used for special missions.

(J1.865) Friendly wild weasel and suicide shuttles which have gone inert or been voided can be boarded. The pilot/crew can then pilot the shuttle to a friendly ship or base (or elsewhere) but the weapons will not operate until the shuttle has been serviced (remained in a friendly hangar bay for 32 consecutive impulses). The shuttle can start moving as soon as the pilot is aboard, although this would be a mid-turn speed change (C12.313). There is no delay between when you beam a pilot aboard and when the shuttle can begin moving, however, you are still bound by the acceleration restrictions (J1.22). Also note that a non-fighter shuttle normally cannot make unplotted mid-turn speed changes (C12.343), but that (J1.865) forms an exception as a specific rule.

(J1.866) Dummy suicide or scatter-pack shuttles are treated as active suicide shuttles if they are still seeking their targets and as inactive ones if they have ceased to do so. Minesweeping shuttles are treated as suicide shuttles for this purpose, but of course will not explode. Exception: A pilot can be transported aboard a minesweeping shuttle.

(J1.867) Once a shuttle begins preparing for an “unmanned mission”, (scatter pack, dummy scatter pack, suicide shuttle, dummy suicide shuttle, wild weasel) it is preparing for an unmanned mission. Shuttles prepared for, or being prepared for, unmanned missions cannot escape from doomed ships (D21.413). Scatterpack (FD7.411), suicide (J2.22), and wild weasel (J3.121) shuttles are prohibited specifically from launching with a pilot aboard while armed or arming.

Scatter Pack Shuttles, once they begin loading drones (or even as a dummy scatter pack), cannot perform any other mission including escape. Once loading begins, (FD7.215) would require 32 impulses to un-prepare the shuttle, even if only one impulse was spend preparing it. Plasma-armed fighters and plasma-armed MRS scatterpacks are an exception to the above. They must be designated as being scatterpacks during an Energy Allocation Phase (FD7.442), and this decision cannot be changed until a subsequent Energy Allocation Phase. It also still requires a deck crew to remove the scatterpack systems even after you change your mind.

Suicide shuttles are more complex. Rule (J2.2212) allows a HELD suicide shuttle to be voided during Energy Allocation, and while it must be serviced for 32 impulses to be able to use its phaser, it CAN be used to “escape” from a doomed ship (J2.2212). A “dummy suicide shuttle” could be prepared or unprepared with no loss of time (J2.226), unless you actually launch it.

If you abort the charging (or rolling delay) of a Wild Weasel during any Energy Allocation Phase it can be launched normally during that turn (J3.121).

(J1.868) Energy cannot be allocated in Energy Allocation to arm a shuttle as a suicide shuttle or a wild weasel unless there is a shuttle in that shuttle box. Even if it is anticipated that a shuttle will land in a shuttle box during the turn. Since there is no "target" for the energy, you cannot allocate the energy in EA. This can only be done by reserve power.

(J1.869) If an unmanned shuttle is recovered, certain operations must be performed to prepare it for normal use. If it is a friendly shuttle, it takes 32 impulses (one deck crew action) to service the shuttle so its weapons can be used. See (FD7.215), (FD7.4152), and (J1.861) for SPs, (J1.865) for WWs and SSs. After the deck crew action, a SP could be re-used, or its drones offloaded. A former WW or SS would return to a standard admin shuttle and would need to be re-energized. Note that under (FD7.215) and (FD7.4152) only a single deck crew can work on the SP systems. Other than that restriction, up to two deck crews can work on a single shuttle so that in most cases (removing or reinitializing the SP systems being the exception) that 32 impulses can be completed in only sixteen.

(J1.87) TRANSPORTERS (G8.0) cannot be used to launch or recover shuttles.

(J2.0) ADMINISTRATIVE SHUTTLES

Almost all starships in the game have boxes on their SSD sheets marked "shuttle." Each of these boxes holds one administrative shuttle. Some ships in future products (and the Kzinti CV/CVS in *Basic Set)* have fighters in some of their shuttle boxes. Shuttle boxes designated for fighters have special symbols (= or +) indicating the type of fighter carried; see (J4.0).

There are several other "non-fighter shuttles" in *Advanced Missions* and other products, including:

Ground Assault Shuttle (R1.F4)
Heavy Transport Shuttle (R1.F5)
Minelaying Shuttle (R1.F6)
Minesweeping Shuttle (R1.F2)
Multi-Role Shuttle (J8.0)
Space Warning and Control Shuttle (J9.0)

These operate within the rules for administrative shuttles except as noted in their individual rules.

(J2.1) GENERAL

All administrative shuttles are identical, regardless of the empire using them. (This is a generalization for the purpose of simplicity, but within the game the various types of administrative shuttles are operationally identical.)

(J2.11) SPEED: All administrative shuttles have a maximum speed of six hexes per turn. This can be increased with warp booster packs (J5.0).

(J2.12) TURN MODE: All administrative shuttles have a Turn Mode of one at Speeds 1-11 and a Turn Mode of two at Speed 12. See (J1.23).

(J2.13) PHASER: All administrative shuttles are armed with a single phaser-3 firing in a 360° arc. This phaser is fired like all others (once per turn, no more than once in eight consecutive impulses on successive turns). The shuttle does not allocate power for the phaser; the design of the shuttle ensures that the phaser will always be charged.

(J2.14) DAMAGE: All administrative shuttles are destroyed by the sixth damage point scored against them (or the third damage point if using warp booster packs). They are crippled (J1.33) by four points of damage (two with packs).

(J2.15) DETECTION OF SPECIAL MISSION: The fact that a given shuttle is a suicide or SP type is not revealed until it releases its weapons or reaches its target unless detected by other means listed here.

(J2.151) Identification of drones (F1.4) [using labs (G4.2), aegis (D13.0), scouts (G24.25), and other means] can reveal if the shuttle is manned, if it is on a seeking course, and (if so) its target.

(J2.152) The fact that a given shuttle is a suicide or SP type is revealed when the shuttle is destroyed. This includes which type (SS or SP) it was, but not the number of drones or the size of the suicide bomb. An unarmed shuttle using (J2.226) or (FD7.45) would be reported as a "normal shuttle."

(J2.153) Tactical Intelligence (D17.0) Level M can only reveal if the shuttle is manned; it cannot reveal whether it is carrying a suicide or SP load.

(J2.16) ARMING: Most non-fighter shuttles have no weapons that require reloading; those that do (e.g., MRS) use the appropriate reloading rules in (J4.0).

(J2.17) ELECTRONIC WARFARE: Non-fighter shuttles do not get the built-in EW that fighters receive under (D6.393) and (D6.394), but they do receive the small target modifiers (E1.7) at appropriate ranges. Scouts cannot lend EW to seeking shuttles (G24.214) but can lend EW to other shuttles. Non-fighter shuttles cannot have EW pods (J4.966).

(J2.2) MISSIONS

Administrative shuttles may be used for several missions. A player is required to identify as such an admin shuttle used as a wild weasel, but not one used as a scatter-pack or suicide shuttle. Other procedures such as (J2.15) may require this identification.

(J2.21) STANDARD administrative shuttles may be used for transport, surveillance, and combat duties.

(J2.211) An administrative shuttle, in its standard configuration, can carry one crew unit (G9.14) or two boarding parties (D7.16). In an emergency situation, it could carry twice this many people for short trips, but would not be able to unload them into a combat situation. For example, a shuttle could be used to rescue four marine boarding parties from a hostile situation, but could only unload them in a safe area, such as a friendly starship or in a remote area as in (D15.7). If unloaded in a combat zone, they could be attacked but could not themselves attack on the turn of unloading.

(J2.212) In monster scenarios, an administrative shuttle could be used to gain additional information about the monster. Each administrative shuttle on the map counts as one "lab" box, but at the range of the shuttlecraft, not the range of the ship. The shuttle cannot begin to collect information until eight impulses after launch. The shuttle must be on the map during this entire eight-impulse period. The shuttle can be assumed to have only one pilot and one scientist on board; one crew unit could provide such a team for up to five shuttles, but at least one crew unit must be assigned as shuttle crews for any shuttles to be used. [A legendary science officer (G22.35) can fly the shuttle alone, gaining not only the points for a shuttle but his own under (G22.31).] This can become important when fighting a monster which destroys crew units directly. A shuttle cannot identify seeking weapons (G4.2), but could gather "information points" on non-monster objects in those scenarios where this is a victory condition. A shuttle destroyed or recovered during the turn still gains information points so long as it had become clear of the launch restrictions (J1.343).

(J2.213) Administrative shuttles can be used for combat purposes. Each carries a phaser-3 (J2.13) and can be used to provide additional protection from seeking weapons or enemy shuttlecraft. In a close-range ship-to-ship duel, however, they cannot be expected to survive for long. They can fire their phaser once per turn. Each requires a two-man crew (one crew unit to five shuttles).

(J2.214) Administrative shuttles have a limited cargo-carrying ability; see (G25.13) and Annex #7K.

(J2.22) SUICIDE SHUTTLES: For this use the shuttle is unmanned; the phaser is deactivated, and the power normally used for it is used to maintain the magnetic bottle around the anti-matter warhead. It is loaded with a high yield anti-matter bomb, which has a force of up to eighteen damage points should it reach its target. It is otherwise considered to be a seeking weapon (FD1.8) and moves by (F2.0). It has an endurance sufficient for a scenario. Suicide shuttles count as seeking weapons against the limits of (FD5.3). A suicide shuttle is an armed warhead on launch, and will explode if it enters the hex of its target on the subsequent impulse. There is no delay in the warhead being armed. A crippled suicide shuttle will be slowed, but will not suffer any loss of warhead function.

(J2.221) In order to launch a suicide shuttle, the launching ship must arm it.

(J2.2211) Arming takes three turns. The ship may expend one-to-three points of warp energy per turn (no less than one, no more than three) in half-point increments (1.0, 1.5, 2.0, 2.5, 3.0). The warhead strength is equal to two times the number of energy points applied prior to launch (minimum warhead = six, maximum = eighteen), not including any holding energy. If the required energy on the second and third turn is not provided, arming is aborted and previously applied energy is lost.

(J2.2212) The third turn of arming can be the turn of launching. If not launched on the third turn, it costs one point of energy (any source) per turn to hold it on board the ship during the fourth and each subsequent turn. If holding energy is not provided, the shuttle is deactivated and all arming energy is lost immediately. The shuttle cannot be launched or prepared for any other mission on that turn. It could be used to escape (D21.41). Additional allocated energy (up to the limit of nine total points)

can be applied to a suicide shuttle being held, but the maximum limit of three points per turn still applies.

(J2.2213) Reserve power can be used to begin the arming of a suicide shuttle and can be applied during any of the arming turns (within the limit of three points per turn). Reserve power can also be applied to an armed suicide shuttle being held (up to the limit of nine total points).

(J2.222) Administrative shuttles, minesweeping shuttles (R1.F2), multi-role shuttles (J8.0), SWAC shuttles (J9.0), and minelaying shuttles (R1.F6) can be used as suicide shuttles. Fighters, heavy transport shuttles (R1.F5), and ground assault shuttles (R1.F4) cannot be used as suicide shuttles.

(J2.223) The suicide shuttle is destroyed when it reaches its target.

(J2.224) If the target of a suicide shuttle is destroyed, the shuttle stops and becomes inert (FD1.72). The booby traps (D7.622) continue to function for purposes of (J1.81), and the bomb remains active (J2.228) unless the controlling ship also cuts tracking (J2.227). If tracking is not cut, the shuttle will proceed to the hex where the target was destroyed and then become inert (unless the target is a WW explosion, in which case the SS will explode).

(J2.225) Suicide shuttles cannot be targeted on a plasma torpedo but could be targeted on a drone.

(J2.226) Unmanned shuttles can be launched as suicide shuttles without an armed weapon. No energy cost or preparation is required and no time is needed to prepare or unprepare a dummy SS. A shuttle without a bomb stops when it reaches its target and goes inert (FD1.72). An unarmed (dummy) suicide shuttle is treated as an armed (real) one for boarding party purposes. See (FD1.562) when the target is another drone or seeking shuttle.

(J2.227) If the controlling ship releases control (F3.4) without transferring it, the shuttle goes inert (FD1.72) and stops; the bomb is ejected safely, and the booby traps are deactivated (so that a pilot can be transported aboard for recovery). The shuttle could be recovered by tractor or by boarding; see (J1.86). Note that a shuttle on a ballistic course (F4.0) cannot be "released" as it is, in a manner of speaking, controlling itself.

(J2.228) An active suicide shuttle hauled into a shuttle bay by tractor beam will explode; see (J2.224) and (J2.227). The explosion is applied first to destroy the undestroyed boxes in the shuttle bay and (if the explosion exceeds the size of the bay) is then resolved as internal damage with no phaser directional restriction and no shield or armor effects. It is impossible to haul a friendly active suicide shuttle into the bay as it will go inert when tractored (G7.523).

(J2.229) Tholian shuttles can pass through web unhindered (G10.53), making Tholian suicide shuttles (their only seeking weapon) particularly effective.

(J2.23) WILD WEASELS: Administrative shuttles can be used as wild weasels, electronic shuttles designed to give the appearance of a ship and distract approaching weapons. Because wild weasels are a very complicated section, they are explained below under a separate rule heading (J3.0).

(J2.24) SCATTER-PACK SHUTTLES: Administrative shuttles can be loaded with drones and sent out (under robot pilots) as, in effect, multi-warhead missiles. See (FD7.0) for rules on this procedure.

(J2.3) SUBLIGHT SHUTTLES

Romulan shuttles before the Klingon Treaty have a speed of one hex per turn. Some Warbirds, Battle Hawks, etc., continued to carry these old style sublight shuttles for years afterwards, until new models were available; see (R4.F0).

(J3.0) WILD WEASELS *(Advanced)*

In some situations there are so many seeking weapons targeted on a ship that the situation becomes untenable. There are too many to destroy or evade, and they are too close to disengage. In these cases the solution is to equip a shuttle (fighters cannot be used as WWs) with electronic equipment so that it will appear, to the rather limited electronic brains on the seeking weapons, to be the ship. While a wild weasel (WW) is functioning, the ship is limited in its ability to maneuver and fire because this would alert the seeking weapons that they were tracking the wrong target. For this use the shuttle is unmanned and the phaser does not operate (its power is diverted to the WW system). It has no warhead and will not explode. Wild weasels primarily affect seeking weapons (by distracting them), but their EW benefit can affect direct-fire weapons.

(J3.1) OPERATING CONDITIONS

(J3.11) WILD WEASEL COURSE AND ACTIVATION: The shuttle must be launched in a pre-set direction, at any speed up to its maximum speed (including warp booster packs, which can be on or off but which cannot be dropped or turned on/off after launch), and unless a course is designated (J3.111), it will not turn at any time.

(J3.111) A WW can be launched on a pre-set course. Up to 96 impulses of directional instructions can be recorded (C1.32); when the end of those instructions is reached, the WW will repeat them. A undestroyed but voided WW will continue to execute this course for the remainder of the scenario, after which it will run out of fuel and become inert (FD1.72).

(J3.112) A WW cannot use EM (C10.133).

(J3.113) A WW cannot become active while held on board the charging ship; a charged WW must be launched to become active.

(J3.114) The wild weasel becomes active immediately on launch. It cannot be launched "tame" and activated later.

(J3.115) A crippled shuttle cannot be used as a WW; exception (J1.654). An operating WW on the map continues to function normally if crippled (although possibly at a lower speed).

(J3.116) No ship can have more than one active wild weasel on the board at any time. The launching of a second weasel voids a previous weasel at the point of launch. If two are launched at the same time, the owner designates which is first and which is second.

(J3.12) CHARGING A WILD WEASEL: To charge a WW, one unit of energy must be allocated on each of two consecutive turns.

(J3.121) A WW can be kept in the bay and continuously supplied with energy (one point per turn, i.e., a rolling delay) so that it will be ready on a moment's notice. However, if energy was allocated to a shuttle for use as a WW, the shuttle cannot be used for any other purpose on that turn. If the arming of a shuttle as a WW is cancelled (at the start of a turn) before it was completed, the energy is lost and the shuttle can be launched normally with no delay.

(J3.122) A ship can begin charging a WW with reserve power, but cannot use reserve power to arm a wild weasel on subsequent turns and cannot launch a WW less than 32 impulses from the point at which charging was begun.

(J3.123) A ship is allowed to have two or more charged or charging WWs in the shuttle bay at any time.

(J3.13) RESTRICTIONS ON THE LAUNCHING SHIP: The ship which launched and is protected by the wild weasel, for as long as the wild weasel is on the map and homing weapons are targeted on it, is under the restrictions listed below. Violating the restrictions may void the WW; see (J3.4). In the case of a destroyed WW, see (J3.21). There are many restrictions in (J3.4) which can void the weasel; the ship must stop performing any of them it is currently performing when (or before) the weasel is launched; e.g., tractors must be released (J3.45). Launching is an overriding factor and can cause the involuntary cessation of many actions and functions outside of the normal Sequence of Play.

See (G10.552) if the ship is in a web hex.

(J3.131) The ship may move at a maneuver rate (C2.42) of no more than four. NOTE: It is possible, through a combination of mid-turn speed changes (C12.0), to move five hexes in a given 32 impulse period without voiding the weasel.

(J3.132) The ship must deactivate its active fire control system (D6.6). The ship may not fire weapons, even with passive fire control

(D19.21). All lock-ons are lost. The ship immediately releases (F3.4) control of all seeking weapons in flight. Control of such weapons can be transferred (F3.5). Previously fired seeking weapons which can obtain (or have) their own guidance and lock-ons do not require the ship to maintain a lock-on and can continue to function without voiding the WW.

(J3.14) SUBSTITUTE FOR A WILD WEASEL: A tug could drop a pod (G14.36) and use it in the same manner as a WW. What the pod lacks in electronics, it makes up for in size of target. Some pods are called pallets or packs.
(J3.141) Preparing a pod for this purpose requires the same energy and preparation as an actual WW. The pod can use its own systems normally during this preparation period.
(J3.142) If the pod survives this use, it could be picked up later by either side.
(J3.143) Assuming that the pod is manned and equipped for independent operations and fulfills any other restrictions and requirements, it could move, use any of its own systems (including weapons), and even attempt disengagement (presumably by sublight evasion) or launch a WW of its own.
(J3.144) Tug pods, base modules carried as inactive cargo, Tholian cargo (and other) packs, Romulan Freight Eagle pallets, Romulan SkyHawk cargo packs, ISC DPT cargo packs, and other items designated in their descriptions can be used for this purpose.
(J3.145) A pseudo-pod (G14.6) cannot be used for this purpose.
(J3.146) A base cannot use a docked pod or module for this purpose.

(J3.15) SUBLIGHT SHUTTLES: A sublight shuttle such as (R4.F0) can be used as a WW for any ship it is assigned to. Of course, it could not move faster than a speed of one.

(J3.16) ORIGINAL SHUTTLES ONLY: All ships can only use their originally assigned shuttles as WWs, not shuttles from other ships or captured enemy shuttles. Bases are under the additional restriction that WWs launched from ships docked to the base will not distract weapons aimed at the base. A WW launched by one of two docked ships (C13.947) would protect both.

(J3.17) DETECTION: A wild weasel is immediately detectable as such when launched. A player launching a WW must identify it as such.

(J3.18) QUALIFIED SHUTTLES: Any non-fighter shuttle (including MRS, HTS, MLS, MSS, GAS, SWAC, and others) can be used as a WW unless stated otherwise in its description. Fighters cannot be used as WWs (J4.41).

(J3.2) EFFECT OF A WILD WEASEL

(J3.20) GENERAL: At the instant that a WW is launched, all seeking weapons targeted on the ship begin to follow the WW, not the ship.

Exception: Type-VI drones which have their own lock-ons will ignore a WW; see (FD5.13).
(J3.201) All seeking weapons launched with that ship (the one that launched the WW) as a target while an undestroyed and unvoided WW is on the map will not accept the ship as a target, but instead follow the WW. There is also an EW benefit; see (J3.23). A destroyed but unvoided WW will continue to attract newly launched weapons for some time; see (J3.211).
(J3.202) Wild weasels protect the ship that launched them and no other. (One exception in a historical scenario of the previous edition was found to be based on an incorrect translation of source material and has been deleted.)
(J3.203) The WW can be targeted in its own right; in this case any seeking weapons would not revert to the protected ship if the weasel was voided. The WW is considered to be a ship of the size of the ship it is protecting for targeting purposes not covered elsewhere (e.g., cannot be targeted by aegis).

(J3.21) DESTROYED WW: A wild weasel can be destroyed by one of the seeking weapons homing in on it or by enemy direct-fire weapons. It could also be destroyed by other means, including but not limited to asteroids, planets, or mines. At the instant that the wild weasel is destroyed, turn the counter upside down and record the impulse. The wild weasel ceases to move at that point. A wild weasel is not voided just because it was destroyed. If a wild weasel was destroyed by death-dragging (G7.54), the hex it was occupying when the tractoring unit moved is the destruction hex.
(J3.211) EXPLOSION PERIOD: For the remainder of the destruction impulse, and for the four succeeding impulses, the wild weasel is in its "explosion period" when its destruction produces an expanding ball of hot gases. (This is in no way related to an ESG field.) The explosion period lasts from the point in the Impulse Procedure in which the shuttle was destroyed until that same point in the Impulse Procedure four impulses later. Note that this might be from the Damage During Movement Stage to Damage During Movement Stage, or from Direct-Fire Weapons Damage Resolution Stage to Direct-Fire Weapons Damage Resolution Stage, depending on which stage the weasel was destroyed in.

(J3.2111) During this explosion period, the wild weasel continues to produce ECM for the launching ship and all seeking weapons following the WW continue to do so. Any additional seeking weapons fired at the protected ship will accept the WW as their target. The ship remains immune to tractoring (J3.452).
(J3.2112) During the explosion period, the WW can be voided by the actions of the protected ship. Reactivating the fire control system will not void the WW during the explosion period until the system is fully active (reactivating it before the WW is destroyed would void the WW immediately). Note, however, that the protected ship will require this entire explosion period to reactivate its fire control systems (D6.633). Firing weapons by passive fire control during this period voids the WW; see (D19.21).
(J3.2113) The launching of a seeking weapon by the protected ship [even by passive fire control (D19.22)] will void the destroyed WW during the explosion period.
(J3.2114) The launching of another WW by the protected ship will void the destroyed WW. Weapons tracking the previous WW will "revert" to the new WW.

(J3.212) POST-EXPLOSION PERIOD: After the explosion period, the WW counter remains on the map. During this period the WW is reduced to a pocket of ionized radiation. The post-explosion period continues until all seeking weapons targeted on the WW have reached the explosion hex, accepted other targets, or reached the limit of their endurance.

(J3.2121) Any seeking weapons targeted on the WW will continue to move toward it (exploding when they arrive) unless the WW is voided by the protected ship.
(J3.2122) Any seeking weapons fired at the protected ship during this period will ignore the WW.
(J3.2123) The WW does not generate ECM during this period.
(J3.2124) The WW can be voided during this period, in which case weapons still targeted on it will switch to their original target.
(J3.2125) Activating fire control will immediately void the weasel (on announcement, before it is fully active) during this period, so the ship might well choose to reactivate the fire control system during the explosion period. See (J3.2112).

(J3.213) COLLATERAL DAMAGE: Note that seeking weapons exploding in a WW hex produce collateral damage (J3.3). Note that the WW is hit by the full weapon effect, not just the collateral damage (J3.301).
(J3.214) CRASH: If a wild weasel is destroyed by crashing into a small moon or planet without an atmosphere, the weapons following it treat the situation exactly as if the weasel had been destroyed in a space hex.
(J3.215) The explosive value of any seeking weapon that hits a wild weasel, even during the post-explosion period, is known, PPTs must be announced, swordfish drones will fire. Non-exploding drone modules and modifications, e.g., probe module, armor module, ATG guidance, extended range, etc, will not be revealed. Obviously a MW drone tracking a weasel will release its submunitions under its previous targeting instructions.

(J3.22) VOIDED WW: A WW will cease to function, and all seeking weapons targeted on it will immediately return to their original target, if it is voided (J3.4).
(J3.221) A voided WW is not destroyed merely as a result of this voiding. In such case, the shuttle continues to move as per its original instructions (J3.111) until it is destroyed or recovered by any means. The shuttle can be recovered by tractor (J1.62), or a pilot could be transported aboard; see (J1.86).

(J3.222) If recovered by an enemy, a voided WW is worth ten extra victory points (due to the secret information it contains). If recovered by a friendly ship, it can be reused for other missions after 32 consecutive impulses in the shuttle bay. Note that as a ship can only use its original shuttles as WWs (J3.16) only the ship that originally owned it could use a recovered WW as a WW again. Any ship which recovers a voided WW does not become a WW; the WW does not explode.

(J3.23) ECM BENEFITS FROM A WW: If a ship has an unvoided WW on the map, the ship gains the benefit of six points of ECM without expending any energy. Any ECM points from other sources are added to this amount.
(J3.231) The six points of ECM are still within the limits given in (D6.392), which restricts a ship from receiving no more than six points of loaned ECM including that from scouts, SWACs, WW, etc.
(J3.232) If the WW is destroyed, the ECM benefit continues through the explosion period (J3.2111).

(J3.24) ACTIVATION: A WW does not begin functioning until launched. A WW held in the shuttle bay produces no benefits of any type. A WW cannot be held on a balcony (J1.534).

(J3.25) PULLED INTO BAY: If pulled inside a ship's shuttle bay, any weapons following the WW accept the ship as their target and the WW is voided. The ship could later use its own WW.

(J3.26) SIZE CLASS: Mines treat an unvoided WW as a ship of the size it is simulating, not as a shuttle, for purposes of detection. Mines treat a WW as a shuttle for purposes of damage. ESGs treat a WW as its true size. Note that the wild weasel is not treated in any way as if it were the unit it was launched from for purposes of mine triggering, only as the size class, i.e., weasels launched from minesweepers do not have the benefit of (M2.45).

(J3.27) TARGET: Units firing direct-fire weapons at a WW receive the EW penalty for firing at small targets (E1.7) because the firing unit's computers believe the shuttle is a full-size ship and are more likely to miss the small target. The six points of ECM (J3.23) do not protect the WW itself.

(J3.3) COLLATERAL DAMAGE

(J3.30) GENERAL: Any unit in the same hex as a wild weasel during an impulse when seeking weapons strike the WW (even a previously destroyed WW) is damaged by the effect of the seeking weapons. This is a rare instance where weapons targeted against one unit may damage another unit. Seeking weapons hitting a WW do not actually hit it but are detonated by the electronic field. Their energy is released into space in addition to being scored on the WW, which makes the hex a very dangerous location.
(J3.301) The seeking weapons damage the WW just as they would if it were a standard shuttlecraft. Damage to a WW is not resolved as collateral damage. (If a pod is used as a WW substitute, it is treated as a pod, not a shuttle, for damage purposes.)
(J3.302) To determine the amount of collateral damage scored on the unit, total the number of damage points scored on the WW and consult the chart below. All damage from seeking weapons that arrive in a given impulse is treated as a single volley.
(J3.303) To determine which shield was hit by the collateral damage, roll a die. The die roll result yields the shield number directly. Note, however, that in the case of the ship which launched the WW (when both the ship and the WW are still in the original hex), the damaged shield is determined by the direction in which the WW was launched (i.e., the direction that the WW is facing). (More advanced rules on actions within a single hex may be published in future and provide alternatives to this random die roll.)
(J3.304) Type-VI drones treat a WW (shuttle) as a shuttle, not a ship, and do their normal eight damage points to the shuttle but produce only two damage points for collateral damage purposes. Type-VI drones would treat a WW (pod, pack, pallet, etc.) as a pod.

(J3.31) WILD WEASEL COLLATERAL DAMAGE CHART

DAMAGE POINTS ON WILD WEASEL	DAMAGE POINTS ON OTHER UNITS
1-2	0
3-4	1
5-6	2
7-10	3
11-18	4
19-28	5
29-40	6
41-55	7
56-75	8
76-95	9
96+	10

(J3.4) VOIDING A WILD WEASEL

(J3.40) GENERAL: Violating the restrictions of (J3.13) "voids" the WW immediately. In addition to the restrictions of (J3.13), several activities could result in "voiding" the WW. If the WW is "voided," all weapons following it return to following the original target and the ECM benefits are lost. The voided WW can later be recovered by rule (J3.22) if it is not destroyed first.
(J3.401) Activation of the ship's fire control system voids a wild weasel immediately, except in the case of the explosion period (J3.2112), even though the system is not fully active until four impulses later. Many of the items listed below (such as operating an SFG) are impossible without a lock-on, which is the result of active fire control; thus, it is really the active fire control scanners which produce the voiding effect.
(J3.402) A destroyed wild weasel can be voided; see (J3.21).
(J3.403) In the event a WW is voided, any action taken simultaneously (in the same step) with the voiding act is treated as if the WW is voided. (If a ship protected by a WW fires DF weapons and is, on the same step, struck by DF weapons, it does not have the ECM benefit of the WW.) In addition, see also:
(C2.42) Maneuver rate when under WW restrictions,
(D6.65) Activating fire control,
(D7.61) Voiding by marine boarding parties, and
(G24.16) Using scout systems
for additional ways to void a WW.
(J3.404) Planets might shield a unit committing a voiding action from voiding its WW; see (P2.3224).

(J3.41) SEEKING WEAPONS: The launching of a seeking weapon by the same ship during the same Launch Phase (Cadet's Game) as the launching of a WW, or while a WW is operating, constitutes the firing of a weapon and voids the WW. This includes ballistic weapons and seeking shuttles. Non-seeking shuttles do not void the WW.

(J3.42) RANGE: If the launching ship is more than 35 hexes from its WW, the WW is void.

(J3.43) ELECTRONIC WARFARE: A ship that has launched a WW can use ECM but not ECCM while the WW is operating. As ECCM can only be used with active fire control (D6.622), a ship protected by a WW cannot use ECCM.
(J3.431) ECM cannot be lent to a WW by the ship protected by the WW. The WW could receive lent ECM from other units. Any such lending would be conducted under the rules for lending ECM to ships, not to shuttles.
(J3.432) The WW could not receive ECM from an EW fighter.
(J3.433) The WW does receive ECM from natural sources.
(J3.434) An ECM drone protecting the ship launching the WW will follow the WW, but will provide no ECM to it. A ship protected by a WW cannot become the "protectee" of a new ECM drone. See (FD9.17).
(J3.435) EW lent to a ship (except by an ECM drone) which launches a WW can continue but does not protect that ship (D6.3144).

(J3.44) MINES: A ship can drop mines from its shuttle bay without voiding its WW. If it uses a transporter to place mines, see (J3.453). A ship cannot detect or sweep mines without voiding the WW.

(J3.45) PROHIBITED SYSTEMS: The ship cannot take certain actions or use certain systems.
(J3.451) A ship protected by a WW cannot lay, maintain, or reinforce webs without voiding that WW.
(J3.452) A ship protected by a WW cannot be tractored (until the end of the explosion period). Pre-existing tractors prevent a WW from being launched. The ship launching the wild weasel must release any of its own tractors before launching the WW (G7.333), or the WW is voided immediately without distracting any weapons or providing any ECM. There is an exception for docked ships; see (C13.947). The ship can use negative tractor without voiding the WW. If, after the explosion period but while seeking weapons are still tracking the destroyed weasel, the ship is tractored and dragged at any speed, the weasel would still not be voided because the protected ship itself has not taken any voiding action. Exceptions: Docked units (C13.947) and tractored bases (G7.90).
(J3.453) Operating a transporter voids a WW.
(J3.454) Launching a probe (weapon or information) voids a wild weasel.

(J3.46) EXPANDING SPHERE: Operating an ESG voids a WW. The WW is voided when the ESG is announced (or voided at launch if an announcement is in effect), not when the ESG becomes active.

(J3.47) STASIS FIELD GENERATOR: Operating a stasis field generator voids a WW launched by the operating ship. If a stasis field is applied to the WW by the ship it is protecting, the WW is voided before the field is applied. If the WW is placed in stasis by another ship, see (J3.5).

(J3.48) ZONES: A WW is not voided if the protected ship enters or is in a web, atmosphere, special zone, etc. Exception: Nebulae, (P6.4).

(J3.49) TRACTORS: A WW is not voided if held by a tractor beam, but like all shuttles can be destroyed if towed at high speed (G7.54) and (J1.212). In that event, destruction of the WW is like any other means of destruction (J3.21); the debris does not continue to move. A ship cannot tractor its own active WW because this would require active fire control, and activating the fire control would void the weasel.

(J3.5) HOLDING A WILD WEASEL IN STASIS

(J3.51) SUSPENDED FUNCTION: If a WW is trapped in a stasis field (by other than the launching ship), its functions are suspended immediately and all weapons following it return to following their original target.

(J3.52) RELEASED FROM STASIS: When the WW is released from the field, it is treated as if it were launched at the instant of release if it is within six hexes of the originally launching ship (otherwise it is void). If the WW is more than six hexes from the original launching ship at the instant of release, the WW is voided immediately.

(J3.53) INTERIM PERIOD: Any activities that would have "voided" the WW which were conducted while the field was operating do not void the WW unless they are continued or repeated after the WW is released.

(J4.0) FIGHTERS

Certain advanced shuttlecraft are used as "fighters" within the game universe. *Basic Set* presents only one fighter, the Kzinti AAS, which is described in (R5.F2). Many additional fighters appear in *Advanced Missions* and *Module J*, and these rules apply to all fighters.

All "fighters" are "shuttles," but not all "shuttles" are "fighters." Note that the authors were VERY careful to define "fighter" and "shuttle" in each case. If a rule refers to "fighters" it does not apply to non-fighter shuttles.

NOTES: MRS shuttles (J8.0) and SWAC shuttles (J9.0) are not fighters, but have some aspects of fighters. These are covered in their specific rules. Note also that heavy fighters are treated as fighters except as noted in (J10.0).

See (JC0.0) in *Module C3A* for conjectural Andromedan fighters.

(J4.1) MOVEMENT

Fighters have certain advantages in movement over non-fighter shuttles.

(J4.11) TACTICAL MANEUVERS: All fighters may make tactical warp maneuvers (C5.43). This is done at Speed Zero (as with ships). The fighter can make a Tactical Maneuver whenever its movement is called for [based on the maximum current speed of the fighter (as adjusted for crippled status, booster pack status, and possibly EM status) even though the fighter is not actually moving], but no more often than once in every four impulses. This forms several exceptions to the procedures for ships.

Non-fighter shuttles cannot make Tactical Maneuvers: exception, MRS and SWAC can make Tactical Maneuvers.

(J4.12) HIGH ENERGY TURNS: All fighters can make one (and only one) High Energy Turn (C6.0) during each game turn, but cannot make two HETs within 1/4 turn.
(J4.121) Exception: Fighters can make an HET to break a tractor beam at any time, regardless of the number of prior HETs; see (G7.55). An HET made for this purpose would count for purposes of the required delay between HETs.
(J4.122) There is no energy or movement cost for an HET.
(J4.123) Fighters never roll for breakdown.

(J4.13) EMERGENCY DECELERATION: Fighters may use emergency deceleration (C8.0), but gain no shield benefit. They may begin Tactical Maneuvers (J4.11) after two impulses. See also (J1.223).

(J4.2) FIGHTER-LAUNCHED SEEKING WEAPONS

Fighters often carry drones and plasma torpedoes.

(J4.21) LAUNCHING SEEKING WEAPONS: All fighters must have their target in their FA firing arc to have a lock-on for purposes of launching seeking weapons. The facing of the fighter has no effect on its ability to control seeking weapons it has launched; the target can be in any arc. A shuttle armed with an ADD rack can launch type-VI drones from that rack in any direction within the restrictions of (E5.41), but such a launch counts against the maximum number of seeking weapons the shuttle can launch under (J4.24).

(J4.22) SEEKING WEAPON GUIDANCE: Any friendly unit can (within its own limits) assume guidance control of any of the seeking weapons launched by friendly fighters; see (FD5.33). All units are limited in their ability to control seeking weapons (F3.2) and cannot exceed this limit. The ship could release (F3.4) the guidance of one or more seeking weapons to accept control of others.
(J4.221) TRANSFER OF CONTROL: A normal fighter cannot accept transfer (F3.5) of control of a seeking weapon from another unit. An EW fighter (R1.F7) or two-seat fighter (J4.43) can accept such transfers, but only from fighters in their own squadron (J4.46). MRS (J8.0) and SWAC (J9.0) shuttles also can accept transfers of control from any unit. Heavy fighters (J10.44) can accept transfers of control. Tholian and Hydran heavy fighters cannot control seeking weapons.

(J4.222) EARLY KZINTI FIGHTERS: When Kzinti fighters first appeared, they did not have their own guidance equipment. These were known as attack shuttles (AS) found in (R5.F1), the prototypes of the advanced attack shuttles (R5.F2) shown in the game. This condition applies only during the historical period Y161-Y163. During this period, the carrier (or another unit, e.g., an MRS) must immediately assume guidance duties for any drone launched by one of its shuttles. There are no two-seat or EW versions of the AS fighter.

(J4.23) DRONE LAUNCH RAILS: Fighters carry drones on launch rails. There are four basic types of rails. In *Basic Set*, the only fighter (the Kzinti AS/AAS) has two "standard rails;" the remainder of this section can be ignored.

(J4.231) The "standard rail" can carry one type-I drone.

(J4.2311) Players may freely substitute type-VI drones on these rails (one type-VI replaces one type-I); there is no BPV change for doing so (although speed cost upgrades will be less expensive).

(J4.2312) EW pods can be carried on standard drone rails, but cannot be carried on other types of rails.

(J4.2313) Standard rails cannot carry multi-warhead drones, but can carry other special types noted in (FD10.0).

(J4.2314) Standard rails cannot carry type-D plasma torpedoes.

(J4.232) Many fighters have "small rails" or "light rails" that can only carry a single type-VI drone. The C-refit (R1.F8) converted many of these "small rails" to "standard rails" late in the war.

(J4.233) The "special rail" is used on only a few fighters, such as the F-14A. It can carry type-I or type-III drones, including multi-warhead and other special drones. Each such rail increases the BPV of the original fighter by one point (e.g., the F-14A costs two points more than the standard F-14). Note that this rail can also be fitted with a type-VI drone.

(J4.234) A very few fighters have "heavy" rails able to carry type-IV drones. These rails can also carry type-VI, type-I, or type-III (one drone per rail, regardless of size). These can be special or multi-warhead drones.

(J4.235) The types of rails on a given fighter are shown on the Master Fighter Chart (Annex #4) in terms of the drone types carried.

(J4.24) DRONE FIRING RATES: A fighter can always launch one drone per turn (assuming it has at least one drone), but cannot launch two drones on consecutive turns within 1/4 turn (eight impulses) of each other.

(J4.241) Unless otherwise stated in the rules, any fighter can launch two drones per turn (or within 1/4 turn) if:

A-both are launched at the same target; and

B-one (or both) of them is a dogfight (type-VI) drone.

Some exemptions to the A and B restrictions are listed in (J4.242) below. No fighter can exceed the per-turn rate within a 1/4-turn period (of two consecutive turns).

(J4.242) Exceptions include the F-14 (which can ignore restriction B; type-IIIs also have their own special rules), the F-15 and TAAS (which can violate A if the drones are not launched on the same impulse, and which can violate B in any case), the Z-Y (which can violate both), heavy fighters (J10.4), bombers (J14.233) and others noted in the rulebook. The A-10 is covered under (J10.43). Fighters which replace light rails with standard rails actually have a *lower* launch rate. Special rails do not give a fighter the F-14 launch rate.

(J4.25) DRONE CONTROL: Any fighter can control a number of drones equal to the number of non-DFDs (non-dogfight drones, i.e., drones other than type-VI) in its nominal load exclusive of variants, if any (or two drones, whichever is greater). Note that type-VI drones must be guided until they achieve their own lock-on (FD5.12).

EXAMPLE: An F-15 nominally carries four type-I and four type-VI drones, so it can control four drones, even if some type-I are replaced by type-VI and even if it is an F-15C (R1.F8) with six type-I drones.

(J4.26) DRONE TYPES: Fighters can carry any of the special types of drones in *Advanced Missions* or other products, except those specifically prohibited in their individual rules. Note that most drone launch rails (J4.23) cannot carry multi-warhead drones.

(J4.27) TYPE-F PLASMA TORPEDOES are subject to all of the above restrictions although, since standard fighters can only carry one and since plasma torpedoes are self-guiding, this is greatly simplified.

(J4.28) TYPE-D PLASMA TORPEDOES are generally treated as type-I drones for purposes of the above rules although, because they are self-guiding, the procedures are simplified. Type-D plasmas use a unique type of launch rail which cannot carry drones. Type-Ks are treated as type-Ds with the same total launch rate.

(J4.3) FIGHTER LAUNCH RESTRICTIONS AND LANDING CONDITIONS

(J4.31) SEEKING WEAPONS: Fighters carrying seeking weapons may not launch them immediately after they are themselves launched. See (J1.341).

(J4.32) DIRECT-FIRE WEAPONS: Fighters may not fire direct-fire weapons immediately after launch; see (J1.342).

(J4.33) OTHER SYSTEMS: Those systems which a fighter cannot use immediately after launch are listed in (J1.343).

(J4.34) LANDING: Fighters land by the procedures in (J1.6). Fighters do not have to eject or discharge their weapons before landing on a ship which has fighter facilities for that type of weapon.

Exceptions: Surrendered fighters (J7.73) must eject or discharge all weapons. Fighters crash-landing on an enemy ship (without permission of that ship) do not have to eject or discharge their weapons (J1.63).

(J4.4) ADDITIONAL RULES ON FIGHTERS

(J4.41) INELIGIBLE MISSIONS: Fighters may not be used for suicide missions (J2.22) or scientific research (J2.212). Exceptions may be provided in later products.

Fighters can never be used as wild weasels (J3.18).

Fighters may be used as scatter-packs (FD7.44).

(J4.42) BOARDING: Fighters may not be boarded by boarding parties (D7.0). Exception: Fighters inside your shuttle bay (G7.8).

(J4.43) TWO-SEAT FIGHTERS: There is a two-seat version of all fighter types. Each carrier can have one such fighter; CVAs can have two. The two-seat version costs two points (combat BPV) more than the standard version, but has the same performance. In addition, it can control up to twelve seeking weapons and can assume control of such weapons launched by other fighters of its squadron.

Two-seat fighters are often modified into EW fighters; see (R1.F7). EW fighters retain the seeking weapon control ability of two-seat fighters.

(J4.44) PHASERS: Fighters can fire each of their phasers once per turn (gatling phasers, of course, fire four times per turn). The energy to rearm the phaser is drawn from the fighter's engine; it is not recharged by the carrier.

(J4.45) HEAVY WEAPONS are recharged by the ship in "fighter facilities" (holding cells in each fighter box of the shuttle bay) and transferred to the fighter by deck crews. See (J4.8).

Heavy weapons are fired under the same rules as ship-mounted weapons of the respective type. Thus, a Federation A-10 fighter cannot fire its photon at Range 0-1, and a Klingon Z-D cannot fire its disruptor at Range Zero.

(J4.46) SQUADRON ORGANIZATION: Players may organize fighter squadrons before the scenario begins within these rules.

(J4.461) All of the fighters in the squadron must be from the same carrier. The carrier must organize its fighters into the minimum number of squadrons. There is no requirement for all the fighters of a given squadron to be of the same type of fighter, but all fighters in a given squadron must all be based on the same carrier, unless otherwise noted, e.g., (SH196.0). A Federation CVA operating F-14s and A-10s cannot incorporate F-8s, F-4s, F-15s, F-16s, F-20s, or any other fighter type into its squadrons, but could mix the F-14s and A-

10s into two squadrons in any manner the commander of the ship chooses.

(J4.462) No more than twelve fighters can be included in the squadron. A heavy fighter counts as two fighters for this purpose. Different sizes of fighters cannot be mixed into a single squadron, e.g., size-1 fighters cannot be combined into a squadron with size-2 fighters or size-3 or size-4 bombers. Heavy fighters, medium bombers, and heavy bombers count as two size-1 fighters for purposes of organizing squadrons. The maximum size of a squadron of size-1 fighters is twelve fighters, the maximum size of a squadron of size-2 fighters, or of size-3 medium bombers or size-4 heavy bombers is six fighters (or six medium bombers, or six heavy bombers).

(J4.463) No more than one EWF can be included in the squadron. Squadrons with fewer than eight fighters cannot include an EWF, but the carrier might have an MRS (J8.51). A carrier designed to carry less than eight fighters cannot have an EWF. A carrier designed to carry less than sixteen fighters can only have one EWF. A carrier that can carry sixteen to 24 fighters can have a maximum of two EWFs. A carrier able to carry 25 or more fighters can have a maximum of three EWFs. When organizing squadrons on a carrier that has less than the maximum number of allowed fighters per squadron, e.g., a patrol carrier with eighteen fighters, it is possible that one squadron might have fewer than eight fighters (example, one squadron with twelve fighters and one squadron with six fighters). The smaller squadron would have an EWF even though it has fewer than eight fighters. This is allowed as long as the carrier qualified to have two EWFs (at least sixteen fighters). Note that this ability to operate two EWFs remains even if combat casualties reduce the total number of fighters during the scenario (or even during a campaign).

(J4.464) One (and no more than one) MRS or SWAC shuttle from the same carrier can be added to the squadron. This shuttle can accept control of seeking weapons and provide EW support. This shuttle does not benefit from EW points it is loaning to the squadron and does not benefit from EW points loaned to the squadron by the carrier. MRS and SWAC shuttles are not fighters, and an MRS or SWAC shuttle could be added to any type of squadron whether the squadron is composed of size-1 or size-2 fighters, or size-3 or size-4 bombers. A given squadron cannot have both a SWAC and an MRS assigned to it at the same time.

(J4.465) Squadrons may be reorganized during a scenario so long as all of the above rules are adhered to and so long as any fighter being transferred between two squadrons is on board the carrier for one full turn. Changing the software in a fighter (to change its squadron) takes one deck crew action.

(J4.466) Fighters from one carrier landed on another carrier of the same empire, so long as they are a type that is operated by the carrier on which they landed, can be incorporated into a squadron within these rules. Note, however, that this does not at any time apply to MRS shuttles which can only be attuned to another ship between scenarios.

Exception: The Lyrans use unmodified Klingon fighters. These can freely transfer so long as the transferring fighter is of a specific type operated by the receiving carrier.

(J4.47) BUILT-IN EW POINTS: All fighters have two points of built-in ECM (D6.394) and two points of built-in ECCM (D6.393).

(J4.48) FIGHTER CLASSES: For purposes of various rules, fighters are often grouped into "classes" based on BPV as follows:

Class 1 Fighters ..... 0-7 BPV points.
Class 2 Fighters ..... 8-10 BPV points.
Class 3 Fighters ..... 11-15 BPV points.
Class 4 Fighters ..... 16 or more BPV points.

The cost includes drone speed upgrades and the cost of "special drone rails;" the cost does not include pilot quality (J6.0).

(J4.49) DROPPING WEAPONS: Any shuttle may, at any time, drop (discard, discharge) any of its rail-mounted weapons (including chaff, pods, drones, plasma-Ds).

(J4.5) CLOSE COMBAT MANEUVERING

(J4.51) AGAINST SHUTTLES: Fighters may always fire (or launch seeking weapons) at any other shuttle that is in the same hex as they are regardless of relative facing. This reflects "close combat maneuvering." (This assumes that the fighter is otherwise able to fire/launch the weapon in question.) This rule is used only against shuttles. It is a simpler alternative to the dogfighting rules in (J7.0). Obviously, both rules cannot be used in the same scenario.

(J4.52) AGAINST SHIPS: A fighter may use "close combat maneuvering" in a hex to position itself to fire upon an enemy ship from an advantageous position. CCM cannot be performed except in the hex of an enemy ship (not shuttle or anything else).

(J4.521) To use CCM against a ship, the fighter must already be in the same hex as the ship as a result of movement on previous impulses. CCM cannot be used if the ship entered the hex on the current impulse. Because of the Sequence of Play, CCM cannot be used if the fighter entered the hex on the current impulse (as its movement would already be complete and no HET would be possible).

(J4.522) The fighter executes an HET within the limits of (J4.12) and announces that it is using CCM relative to a given enemy ship in the hex; it does not leave the hex even if scheduled to move. The fighter is then turned to its new facing and is deemed to have moved around the ship and turned to position the ship on its forward centerline. The fighter is then facing the appropriate shield and is in the corresponding weapon arcs of the target. A fighter using CCM is maneuvering so violently through the hex that any ship in the hex can fire any weapon at the fighter regardless of firing arcs, even two (or more) weapons with non-overlapping firing arcs.

(J4.523) EXAMPLE: A Kzinti AAS is in the same hex as the Klingon F5 at the start of the impulse. The F5 is facing in direction A. Based on (D3.42), the fighter is facing the #1 shield of the F5. The #3 shield of the F5 is down from a previous attack, and the fighter wishes to engage this shield. The fighter executes an HET to face in direction F. It is now facing the F5's #3 shield, and the fighter is in the R and RR firing arcs of the F5.

(J4.6) CARRIER OPERATIONS

(J4.61) CARRIERS: Most fighters are carried by specially designed ships (carriers) or operate from bases. It should be noted that most fighter types can theoretically be carried by most ships, but they are usually restricted to special carriers. This is because of the need for administrative shuttles on starships (for utility and other missions) and the lack of special fighter maintenance facilities on most starships.

Players should be aware that the deployment restrictions observed by the various fleets are for a reason, and that even though this reason is outside the scope of the game, it should not be ignored. Ships going on dangerous special purpose missions might, however, be loaded with fighters instead of some, but not all, of their regular shuttles. (This can only happen in a published scenario. It cannot be done in a patrol scenario without permission of all players.) During earlier times (1942), for example, Army bombers were launched from a Navy carrier. But it was only done once, and for a very special mission, and the Navy carrier could not operate her own aircraft in her own defense while carrying the bombers.

(J4.62) CASUAL CARRIERS: Some ships have ready racks for fighters, and may even carry one or two, but are not "carriers" within the context of the rules. These ships are known as "casual carriers". Examples include most carrier escorts, the Hydran Pegasus and Gendarme, and many WYN ships.

(J4.621) Casual carriers have enough drones and chaff pods to re-arm those fighters (or a number of fighters equal to their ready racks) three times. Special drones can be purchased as Commander's Option Items at normal racial percentages (FD10.6). Drones in the racks are slow unless speed upgrades are paid for. Pay the cost of speed upgrades for one loading of the ready racks (FD2.45); the rest are held in "fighter storage" as per (FD2.443). See (J4.75) for other supplies. The fighters on the carrier will determine what type of ready racks are on the escort, and this will in turn determine the numbers of drones held in the racks.

Federation carrier escorts (R2.R5) have their drones stored in cargo boxes, not in "fighter storage," and have special drones proportional to those on their carrier.
(J4.622) Casual carriers cannot loan EW points to their fighters as true carriers can.
(J4.623) Most Hydran ships carry at least some fighters; any Hydran ship carrying fighters is considered to be an "fully-capable" carrier unless specifically noted otherwise in its ship description. Carrier tugs and monitors equipped with fighter or SCS pallets are fully-capable carriers. There is some confusion between *Star Fleet Battles* and the companion strategic game *Federation & Empire*. *F&E* uses the term "true carrier" to refer to ships which carry full fighter squadrons, causing confusion because the term "true carrier" was sometimes used in *SFB* for what is now called a "fully capable" carrier.

(J4.7) SUPPLIES FOR FIGHTERS

Carriers that operate fighters carrying drones are presumed to have a supply of drones on board. These drones are used to rearm the ship's fighters. The Kzinti CV has 150 "spaces" of spare drones for its fighters. The drone storage capacity of other carriers (in other products) is shown in Annex #7G (in *Module J* or *Advanced Missions).* The drone loadouts are purchased under the requirements and limitations of (FD2.45), (J4.23), and (FD10.6); extra drones can be purchased under (S3.2) to increase the pool of available drones. The supplies listed here are included in the BPV of the carrier and do not have to be purchased separately.

(J4.71) STORED DRONES: Stored drones (including those in the ready racks) are kept inert by having their detonators removed. They will not explode and do not increase the strength of the ship's final explosion.

(J4.72) READY RACKS: Drones held in ready racks (J4.89) or loaded on the fighters count as part of the ship's storage under Annex #7G (or others). Drones in ready racks will not explode or constitute an armed fighter for chain reaction purposes (D12.0). Drones on a fighter will not contribute to the explosion, but do make the fighter vulnerable to chain reactions.

(J4.73) TORPEDO RELOADS: Federation ships have a "photon freezer" to supply photon torpedoes for their A-10 attack shuttles; Romulan, ISC, and Gorn ships have stasis boxes to store extra plasma-F torpedoes. Hydran ships have facilities to store charges for fusion beams and hellbores. These are within and part of the various shuttle (fighter) boxes on the SSD and are explained in (J4.8).

(J4.74) REPAIR: Fighters can be repaired, but not rearmed, if landed in a shuttle box without ready racks. See (J4.897) for a partial exception and (J4.898) for another exception.

(J4.75) SUPPLIES: Carriers have various types of expendable supplies for their fighters. See (J4.621) for supplies carried by escorts and casual carriers. These supplies are in the same (D16.0) area as the shuttle bay.
(J4.751) A carrier is presumed to carry enough chaff pods (D11.2) to reload each of its fighters three times.
(J4.752) A fully-capable carrier has two EW pods for each of its fighters although most of these will probably be used by the two-seat EW fighter.
(J4.753) See (J5.42) for data on warp booster pack storage.
(J4.754) Extra supplies can be purchased as Commander's Options (S3.2).

(J4.8) REARMING FIGHTERS

Fighters may return to their carrier (or any friendly ship with appropriate facilities) during the course of a scenario to pick up more drones (or other weapons), chaff packs, or EW pods or to be repaired. Any ship can recover a fighter, but only one with "appropriate facilities" can service that fighter. Various rules, such as (J4.8962) and (J4.895), allow most ships to provide at least some services. A fighter would never begin a scenario on a ship it is not usually based on except during a campaign. Special scenario rules might define some circumstances where fighters are someplace other than a designated carrier.

NOTE: As *Basic Set* includes only drone-armed fighters, only rules (J4.81), (J4.82), (J4.88), and (J4.89) need be read at this time. If you add products which include other types of fighters to your personal game system, the relevant reload rules will be found below. Inclusion of these rules in *Basic Set* will allow you to use the fighters in any one of several expansion products (e.g., *Advanced Missions*, *Module C1*, *Module C2*, or *Module J)* without owning any of the others.

(J4.81) DECK CREWS: All carriers (of any empire) have a number of "deck crews" equal to the number of fighters carried. (Some ships are designated to have a different number.)
(J4.811) Deck crews are killed when the shuttle/fighter box they are working in is destroyed. If several deck crews are working in that box, all are killed. Determine the number of deck crews functioning at the start of each turn; these are considered to function throughout that turn unless killed or involved in a transfer to another bay.
(J4.812) When evacuating a ship, deck crews can be ignored since they are counted as part of the regular crew units. If transferred specifically as such, two deck crews are equal to one crew unit.
(J4.813) Deck crews are assigned to a specific shuttle bay and can work on any shuttle within that bay. Each deck crew is assigned to a specific shuttle box at all times, unless they are being transferred. Deck crews transferred between two bays are unavailable for use on the turn that the transfer is made. Deck crews can be transferred indefinitely (even if there is only one bay) to avoid having them assigned to a shuttle box.
(J4.814) All ships not formally assigned a number of deck crews by Annex #7G are assumed to have two deck crews. These can be used for loading scatter-packs, repairing shuttles, changing modular pallets on multi-role PFs, etc. Carrier escorts (with ready racks but without fighters) and casual carriers have one deck crew per ready rack (minimum two deck crews). These deck crews cannot be transferred to another ship. If transferred as a crew unit (e.g., during an evacuation) they do not retain their abilities as a deck crew. If killed during a scenario, there is no way to replace them from the crew.
(J4.815) If a ship buys an MRS (J8.0) as a Commander's Option (S3.2), it comes with one deck crew in addition to any assigned by Annex #7G. If the ship is not assigned deck crews, the two deck crews provided by (J4.814) handle the MRS and no additional deck crew is included with the MRS.
(J4.816) Additional deck crews can be purchased under (S3.2) but only by true carriers.
(J4.817) Deck crew activities are expressed in terms of "deck crew actions" (also known as "deck crew activities" or "deck crew operations"), each being the equivalent of the work done by one deck crew for one entire turn.

(J4.8171) Each deck crew action takes 32 consecutive impulses. A half action, to reload a type-VI drone for example, takes sixteen impulses. An action can begin on any impulse (subject to other rules).
(J4.8172) Loading cannot commence until the impulse after the fighter enters the bay; the fighter cannot launch until the impulse after reloading is complete (unless the deck crew is interrupted). A fighter could land during Impulse #10 of Turn #2, be reloaded (by two deck crews) with two type-I drones, and launch on Impulse #11 of Turn #3. No more than two deck crews can work on one fighter or shuttle (rearming or repairing it) [exception: (J10.112)], and one deck crew cannot work on two or more fighters. Two more deck crews can load the ready rack in that box if there is space available on the rack. The rack cannot be simultaneously loaded by one set of deck crews and provide drones for other deck crews to load on the fighter, even if this is done in different positions on the rack. See (J4.823).
(J4.8173) The relationship between an "action" and a particular type of ordnance is defined within the various rules below.
(J4.8174) Deck crew actions can be interrupted by various means. (The fighter could launch, the player could transfer the deck crew at the end of the turn, damage could destroy the shuttle and/or the shuttle box, the deck crew could be killed, etc.) If the action is interrupted, it is cancelled and the fighter is in the same condition as if the action had never been started.
(J4.8175) All deck crew actions must be recorded, specifically noting which fighter/shuttle deck crew actions were performed on and the turn/impulses the activity was performed [including (J4.818) actions]. This record must be presented to the opposing player for review at the end of the scenario.

(J4.818) A deck crew can repair one point of damage to a shuttle as one deck crew action.

(J4.82) REARMING PROCEDURE, DRONES: Drones are physical objects which must be removed from storage, uncrated, fully assembled, placed on a ready rack (J4.89), and then loaded on a shuttle.
(J4.821) Deck crew operations are linked to the space points of the drone being acted upon. A one-space drone requires one deck crew operation. A two-space (e.g., type-IV) drone requires two actions. A half-space (e.g., ADD or type-VI) requires one-half of a deck crew action. [i.e., A deck crew loads a type-VI drone in half the time it takes to load a type-I drone.] Moving a drone from storage (FD2.44) to a ready rack is one action (per space). Loading a drone from a ready rack onto a fighter is one action per drone space.
(J4.822) Each shuttle box that originally contained a fighter that can carry drones is presumed to have a "ready rack" to store reloads. This is a mechanical assembly that could be considered a cross between a gun rack and a forklift.

(J4.8221) The drones are loaded onto the rack, which then lifts the drones into position so that they can be loaded on the fighter. Fighters cannot have drones reloaded unless these drones are already stored in the ready rack; exception: (J4.896).

(J4.8222) Each ready rack holds the same drones that the fighter it is designed to service carries. Each ready rack is designed for a specific type of fighter. See (J4.891).

(J4.8223) Normally, a carrier keeps the ready racks filled but the fighters unloaded. When a strike is needed, the fighters are loaded with drones and launched. The deck crews then reload the racks while the fighters are on their mission so that the fighters can be reloaded quickly when they return.

(J4.8224) The status of a given carrier's fighters is shown by the weapons status (S4.0). At WS-III the fighters are loaded but their weapons were taken from the ready racks, which have not been refilled.

(J4.8225) Variants of fighters (e.g., C-refit, F-18B) can be rearmed in each other's ready racks, but obviously cannot load a weapon for which they are not authorized. If, for example, a fighter without a C-refit was in a fighter box for a fighter with a C-refit, and the ready rack held a type-I drone in a position that corresponded to a type-VI drone rail, that drone could not be loaded. Type-Is could be loaded by (J4.8962).

(J4.823) Each deck crew operation takes 32 consecutive impulses; see (J4.8171). An operation can begin on any impulse, but crews can only be transferred at the end of the turn. This provides flexibility to drone-armed fighters as one deck crew could start reloading a fighter on a given impulse and then be joined at the end of the turn by a second crew. For example, a fighter lands on Impulse #16. One deck crew is there waiting and starts loading a type-I drone on Impulse #17. At the end of the turn, a second deck crew joins them and the loading of that drone is then completed on Impulse #8.
(J4.824) Drone storage is specified in (FD2.443).
(J4.825) The rearming and storage rules for drones are used for type-D plasma torpedoes, with the exception that type-Ds require activation energy (FP9.22). A type-D torpedo is the same size as a one-space drone.

No fighter in the game can use both type-D plasmas and drones, so you cannot load drones on a plasma-D-armed fighter (nor vice versa). It would be theoretically possible to transfer type-D plasmas to a drone-armed carrier (G25.3) and then load them on type-D-armed fighters using the deck crews and drone handling equipment. No carrier (or any other ship) can begin a scenario with both drones and type-D torpedoes on board. (There could be a possible exception in the case of an Orion ship with mixed technology.) The drones (on a plasma carrier) and plasma-Ds (on a drone carrier) would be loaded by (J4.8962) not by the ready racks.

(J4.83) REARMING PROCEDURE, HYDRAN SHIPS: The Hydrans operate two types of fighters, those with fusion beams and those with hellbores. See (J4.88) and (J4.89).
(J4.831) Each fusion fighter box on a Hydran ship (marked with an =) has a capacitor able to hold up to eight fusion charges. These capacitors are destroyed with the fighter box. Since most of their fighters take two charges in each of two weapons, each fighter box holds up to two complete reloads. At WS-III, a fusion capacitor would still be holding one charge, the other being on the fighter.
(J4.832) The capacitors can be recharged (one point per charge, eight points of energy to fill the capacitor) from the ship's power.
(J4.833) The fighters are reloaded from the capacitors in the same procedure as drones, with each charge being loaded counting as 1/2 of a deck crew operation. The capacitors in a given fighter box can only be loaded on the fighter in that box.
(J4.834) Some Hydran fighters carry hellbores. The fighter boxes for these fighters (marked with a +) have one capacitor for a hellbore charge (part of the fighter box, in place of the fusion capacitor); reloading the fighter with this charge is a single deck crew action. The capacitor in a given box can only reload the fighter in that box. The charge can be reloaded (for two points of power on each of two consecutive turns) by the ship.
(J4.835) Some Hydran ships have both types of fighters. Fighters can only reload in the appropriate type of box. See also (J4.895), (J4.896), and (J4.897). The reference to (J4.896) is valid, but this can happen only in cases where a drone-armed fighter lands on a foreign carrier during a battle.

(J4.84) REARMING PROCEDURE, DISRUPTOR-ARMED FIGHTERS: See (J4.88) and (J4.89).
(J4.841) The Klingons, Kzintis, Lyrans, and Tholians operate disruptor-armed fighters. These are rearmed by this procedure. The fighters cannot rearm the disruptors themselves.
(J4.842) Each disruptor-armed fighter is based in a shuttle box (marked +); that shuttle box is equipped with a capacitor (not shown on the SSD) for two disruptor charges. Other shuttle boxes on the ship do not have these capacitors. The ship loads the capacitors (two points per charge; both points must be provided on the same turn).
(J4.843) Reloading a disruptor charge on a fighter is a single deck crew action.
(J4.844) Disruptor-armed fighters are fairly uncommon in Klingon and Kzinti service. CVAs might carry a flight of six as part of a mixed squadron. This restriction does not apply to heavy fighters, which were themselves fairly uncommon. Note: The Klingons usually relied on Z-1 and Z-P fighters for the heavy attack mission, in addition to Z-Ds.
(J4.845) All disruptor-armed fighters (except as noted) can hold two charges for each disruptor. These are loaded individually as above.

(J4.85) REARMING PROCEDURE, PHOTON-ARMED FIGHTERS: See (J4.88) and (J4.89).
(J4.851) The Federation operates the A-10 and A-20 shuttles, both of which carry photon torpedoes. These are rearmed by this procedure. The fighters cannot rearm the photon torpedoes themselves.
(J4.852) Each fighter box assigned to a photon-armed fighter (marked +) includes a capacitor for a single photon torpedo. This capacitor can be reloaded (same procedure as a photon torpedo tube, two points of warp power for two consecutive turns, but overloads are not allowed) by the ship's power. A torpedo loaded in the storage facility may be loaded on a photon-armed fighter by deck crews. The torpedoes cannot be fired from the storage facilities in the shuttle bay.
(J4.853) Reloading a shuttle with a photon torpedo is a single deck crew action.
(J4.854) The torpedo can be set as a standard or proximity fuse at the time the charge is loaded on the fighter. Changing this afterwards requires a deck crew action.

(J4.86) REARMING PROCEDURE, TYPE-F PLASMA TORPEDOES: See (J4.88) and (J4.89).
(J4.861) Many Romulan, Gorn, and ISC fighters carry type-F plasma torpedoes. These are rearmed by this procedure; the fighters cannot rearm plasma torpedoes themselves.
(J4.862) Each shuttle box (marked +) that carries a fighter capable of firing a type-F plasma torpedo includes a storage facility (not shown on the SSD) for a single type-F plasma torpedo. Boxes holding fighters that do not carry this weapon do not have the storage facility. (For example, the SparrowHawk-B has eight shuttle boxes in each module, four of which are equipped with these storage facilities. Thus, four of the SpH-Bs boxes are marked + and four are marked = for plasma-D fighters.)
(J4.863) Reloading a type-F plasma torpedo on a fighter is a single deck crew action.
(J4.864) No fighter can fire a plasma bolt (FP8.23).
(J4.865) No fighter has pseudo plasma torpedoes (FP6.14).
NOTE: Plasma-Ds use the drone procedure; see (J4.82).

(J4.87) RELOADING PROCEDURE, ANTI-DRONES/RALADS

Anti-drones (E5.0) and RALADS (J12.0) are reloaded using the same procedure as drones (J4.82). Each ADD/RALAD is equivalent to a 1/2-space drone.

(J4.88) GENERAL REARMING PROCEDURES: The following general rules are in effect unless otherwise specified.

(J4.881) The ship can rearm the weapons' storage capacitors (freezers). The cost of arming a weapon to be held for later use by a fighter, and the reloading procedure, is the same as arming the same weapon on the ship. [Exception: Hydrans (J4.832).] For example, there is no difference whatsoever in arming the type-F plasma torpedo on a ship than in arming one to be held for use by a fighter.

(J4.882) The weapons can be loaded on fighters on the turn when they are charged. The fighter does not pay an energy cost to hold the charged weapon. The ship cannot reload the fighter directly, but must reload the storage capacitor.

(J4.883) Weapons stored in fighter boxes cannot be fired from those boxes or transferred to the ship's weapons. (Exception: Drones and plasma-Ds can be removed from a shuttle bay for use on the ship's drone racks and vice versa.) They can be ejected into space. [The fact that a weapon was ejected from the fighter facilities is known at Tactical Intelligence Level B.] They do not explode in chain reactions (D12.0). No holding cost is paid for charges (for energy-based weapons) held in a fighter-capacitor.

(J4.884) The ship can recharge any or all of its fighter weapon storage facilities at the same time.

(J4.885) No fighter can use, and no storage facility can hold, an overloaded weapon.

(J4.886) Unless otherwise specified [e.g., (D18.0) or (D17.75)], it is assumed that all freezers, storage facilities, capacitors, and ready racks (in shuttle boxes) are fully loaded at the start of a scenario but the fighters are not. Any fighters armed at the start of a scenario are presumed to have drawn from these freezers, which cannot be recharged before the scenario begins.

This rule explains and restricts the terms for arming fighters in WS-III. The conditions include and apply to drone and ADD racks on shuttles. See (J4.8224).

(J4.887) None of these storage facilities/ready racks appear on the SSD (except as the + and = marks in shuttle boxes). They are assumed to be part of the shuttle box and are destroyed by damage points scored on those shuttle boxes. If a shuttle box is destroyed, the reload facilities and any weapons loaded in them are lost. If repaired, the reload facility is unloaded.

(J4.89) READY RACKS: The variously described ready racks (J4.822) and storage boxes (J4.88) can be included in the general term "ready rack" or "fighter facility" or "weapons charge storage facility" or "capacitor" for purposes of these rules. Some carriers have two or more kinds of fighter facilities; this requires additional restrictions.

(J4.891) Each specific fighter type has its own specific ready rack. A fighter can receive repairs, but not weapons, in a shuttle box or in a box with the wrong kind of ready rack [except as noted, e.g., (J4.896) or (J10.11)].

(J4.892) Energy weapons can be reloaded from a shuttle box of the same empire with facilities for that specific weapon, but the required number of deck crew actions are doubled, but a plasma-F torpedo cannot be reloaded in a plasma-D or photon shuttle box.

(J4.893) Players might choose to standardize the types of fighters on their carrier to reduce their workload and simplify the game.

(J4.8931) On many Hydran SSDs, some fighter boxes are shown with hellbore (+) reload facilities while others show fusion (=) facilities. The player can freely replace the Stinger-H fighters (and reload facilities) with Stinger-1 or -2, but cannot add more Stinger-H fighters.

(J4.8932) On most Romulan and ISC, and some Gorn carriers, some fighter boxes are marked for fighters with plasma-F (+) while others are marked for fighters with plasma-D (=). These show the standard deployments. In non-historical modifications, players can replace plasma-F fighters with the others, but not vice-versa. Also note that plasma-D fighters are reloaded in boxes with the drone symbol, but these ready racks cannot load plasma-D torpedoes on drone-armed fighters.

(J4.8933) Disruptor-fighter boxes (+) can be replaced with drone-fighter boxes (=), but not vice-versa.

(J4.8934) Federation A-10s can be replaced with F-18s, but not with other types (such as F-14s or F-15s).

(J4.894) If an MRS shuttle is carried, it has its own unique ready rack (storage capacitor, or whatever). The MRS and its rack are treated as a different type of fighter for purposes of reloading from non-standard ready racks.

(J4.895) Any fighter box can load chaff on any fighter so equipped or repair damage on any shuttle.

(J4.896) Drones are fairly standard, and while it may be difficult to manhandle a drone out of a Federation F-18 ready rack and load it on a Kzinti AAS fighter, it can be done.

(J4.8961) Any fighter box for a drone-armed fighter can reload drones on any friendly drone-armed fighter, but cannot load more than one drone (regardless of size) per turn on a fighter that is not of the type for which the rack was designed. Note, however, that the carrier might not have the correct special drones for the fighter; standard explosive drones (of the proper size) will of course fit any drone-armed fighter.

(J4.8962) Any shuttle box without a ready rack holding drones can still load one drone on a fighter. However, because the drone must be carried to the box (by overhead crane, a service cart, or the Kzinti weightlifting team), it takes twice as many deck crew actions as would normally be required. This could be done by a ship which had no fighters or ready racks, but which had drones on board. The drone must be brought to the bay (a deck crew action) before this procedure can begin. See (J4.899) in the case of a different size of fighter. Drones on ready racks in other shuttle boxes of the same bay count as already being in the bay.

(J4.8963) The same procedure can be used with plasma-Ds although, of course, drones and plasma-Ds are not interchangeable on fighters. Arming energy can be applied to plasma-Ds in non-plasma-D shuttle boxes.

(J4.897) Many carrier escorts (and some other ships) have ready racks and deck crews, but have no fighters; see (J4.62). These racks are used to reload fighters from carriers within that fleet. The player designates each rack as to its type before the scenario/campaign begins. These racks cannot rearm heavy energy-based weapons such as disruptors. These "casual carriers" have supplies for fighters defined in (J4.62), based on the number of racks (as they have no actual fighters). See (R2.R5) for Federation escorts.

(J4.898) Electronic warfare fighters can be serviced with repairs, chaff, and EW pods in any fighter reload box. If the EWF carries weapons, these can only be reloaded from an appropriate reload box for a basic fighter of that type. Alternatively, see (J4.896).

Electronic warfare pods can be added to any fighters in any fighter box (assuming other restrictions are met) or in a non-fighter box using (J4.8962).

(J4.899) Heavy fighters and standard fighters cannot use each other's ready racks. Fighters in the wrong "size" shuttle box could, however, be serviced as in: (J4.891) repairs, (J4.892) energy weapons (but only when a standard-sized fighter is in one of a pair of heavy fighter boxes and the other box is empty), (J4.8962) drones (taking three deck crew operations per drone, EW pods and type-D plasma are treated the same way), or (J4.895) chaff.

(J4.9) FIGHTER ELECTRONIC WARFARE
Commander's Level Rule

Fighters use special electronic warfare rules to reflect their differences from ships. If you are not using the Commander's Level EW rules, you can ignore all of (J4.9). Some aspects of this rule apply to non-fighter shuttles. Non-fighter shuttles can be lent EW by a scout channel.

The fighter electronic warfare rules were written by Felix Hack.

(J4.91) MAXIMUM EW LEVELS: A given fighter cannot use more than six points of ECM or more than six points of ECCM, including its built-in points (J4.47), points from EWPs (J4.96), and points received by lending from other units (J4.92), but not including ECM points from "natural sources." Note that this is six points each of ECM and ECCM, not six total points. See (D6.3143) for natural sources. Non-fighter shuttles can only receive natural EW and EW lent via a scout channel.

(J4.92) RECEIVING LENT EW: While a fighter has some built-in EW points, this is seldom enough to compete in the electronic warfare arena. While a fighter could receive lent EW from a scout under (G24.217), there will be far too many fighters in place for the scout to support each one as an individual. Instead, fighters are grouped into squadrons (J4.46) and the squadron is lent EW as a whole by the rules below.
(J4.921) Any fighter that has a lock-on to and is within either three hexes of an uncrippled EWF (or MRS, or SWAC shuttle) *from its squadron*, or which is within ten hexes of its specific home carrier (or base), can receive "loaned" ECM and ECCM from that source.
(J4.922) A given fighter can only receive "lent" EW points from a single outside source. It can change the source it is receiving from every eight impulses. It cannot change just because the present source became unavailable but would have to continue "receiving" from that unit (even though it could not use the points). A fighter can begin receiving points immediately after launch, see (J1.343). Non-fighter shuttles can receive lending from scouts.
(J4.923) A crippled shuttle can receive lent EW (J1.333).

(J4.93) LENDING EW TO SQUADRONS: A given carrier, EWF, MRS, or SWAC can loan the points it is generating to all fighters (of a designated squadron) that are within the appropriate distance and otherwise qualify. Each of the fighters receives all of the loaned points from the loaning unit. See (C10.523).

EXAMPLE: Four F-18 fighters are on a mission. Fighter #1 is an EWF version carrying four EWPs, #2 has two EWPs, #3 and #4 have no EWPs. Assuming that each EWP generates one point of ECM and one of ECCM, fighter #1 will have six points each of ECM and ECCM (two built-in and four from the pods), #2 will have eight points of each (two built-in, two from its own pods, and four from #1), while #3 and #4 will have six points of each (two built-in and four from #1). If the carrier were within ten hexes and generating four points of ECM and two points of ECCM for lending (its maximum), it could loan those points to the fighters, but any fighter receiving the points couldn't benefit from the points from the EWF since a fighter can only receive lent points from a single source (J4.922).

Note that fighter #2 has eight points of ECM and ECCM, but can only use six of each. If, for some reason, it lost two of each of its points, it would still have six of each.

Note further that the carrier could generate any combination of ECM/ECCM (to a total of six) for its own use, independently of what it is generating to be lent to fighters.

(J4.931) The electronic warfare points lent by a carrier are generated in a special manner (under an equal limit) separately from those points generated by the carrier for its own use. The same points cannot be used by both the carrier and the fighters. Only actual carriers (not casual carriers) can use this procedure; see (J4.6). EW generated for a squadron which is accepting EW from another source (J4.921) can be detected.
(J4.932) A carrier cannot re-lend points it has received from another source, whether natural (EM, asteroids, etc.) or from a scout, SWAC, or MRS.
(J4.933) A carrier with more than twelve fighters could divide them into squadrons (J4.46) and generate a separate set of EW points for each group (assuming it has the power; yes this means it could generate twelve EW). This division into squadrons (J4.462) is not strictly required, but if the fighters are not grouped into squadrons, the squadron EW lending rule cannot be used.
(J4.934) An MRS or SWAC shuttle cannot simultaneously lend points to its squadron and its carrier.

EXAMPLE: A carrier has launched a fighter squadron and an MRS. The carrier could provide EW points to the fighters while the MRS provides EW points to the carrier, or the MRS could provide EW to the fighters (if it was officially assigned to their squadron). In the latter case, the carrier could not provide EW support to the fighters (which can receive EW from only a single source) and the carrier cannot provide EW support to the MRS (because the MRS is not a fighter and cannot receive carrier-lent EW), see (J8.43).
(J4.935) A crippled shuttle cannot lend EW (J1.333).

(J4.94) MAXIMUM EW SUPPORT: Each type of unit that can lend EW has a specific limit.
(J4.941) An EW fighter could have up to four EW pods and could lend up to eight EW points (combined total of ECM and ECCM).
(J4.942) A carrier cannot lend more points to any given squadron than its sensor rating.
(J4.943) An MRS can lend the points provided in (J8.43).
(J4.944) A SWAC can lend the points provided in (J9.14).

(J4.95) FIGHTER IN DOGFIGHT: A fighter involved in a dogfight (J7.0) cannot receive EW points from outside sources during the time it is in the dogfight. If it is receiving such points when the dogfight begins, the lending unit may continue to lend them (without effect) so that they would be effective as soon as the dogfight is over. If a fighter in a dogfight is not currently receiving EW points, a friendly unit can begin lending them to the fighter (without effect) so that they will become effective as soon as the dogfight is over. All of this lending is, of course, done within the appropriate rules.

Fighters using (J4.5) can receive lending.

(J4.96) ELECTRONIC WARFARE PODS: All fighters have a built-in capability for electronic warfare; see (J4.47). To increase this capability, fighters began using electronic warfare pods (EWPs) in Y168. EWPs are often carried on special electronic warfare fighters (EWF); see (R1.F7) and (J4.43).

NOTE: This entire rule (J4.96) is replaced by (J11.2) in *Module J*, incorporating various advanced rules and capabilities.
(J4.961) Each EWP can provide two points of either ECM or ECCM, or one of each. This is determined secretly and simultaneously (B2.4) and announced in the Sensor Lock-On Phase of each turn.
(J4.962) Each EWP is loaded by a deck crew as a single deck crew action (the same as loading a one-space drone). An EWP replaces one drone carried by the fighter. EWPs that replace drones do not affect fighter speed or performance although they will of course reduce its offensive armament.

(J4.9621) Fighters may carry extra EWPs (without reducing the number of drones carried), but for each extra one carried (to a maximum of two), reduce the speed (with or without warp packs) and the dogfight rating (J7.62) of the fighter by one.
(J4.9622) A fighter can drop an "extra" EWP carried under (J4.9621) to improve its speed and DFR, but the pod cannot be recovered, The speed and DFR improve immediately; this does not count as a speed change or acceleration for delay purposes. The EWP can be dropped at the point before seeking weapons could be launched, but the EW situation must be rebalanced immediately.

(J4.963) Extra EWPs beyond those provided in (J4.752) can be purchased as Commander's Options (S3.2).
(J4.964) No fighter can carry more than two EWPs; exception EWFs (R1.F7) or heavy fighters (J10.0) can have four (including any built-in). Regardless of how many EWPs are carried, the maximum EW a fighter can use is as per (J4.91).
(J4.965) The EW points generated by EWPs on an EWF are used by the EWF in addition to its built-in EW (J4.47). Only those points generated by the EWPs, and not the built-in points, can be lent to the other fighters in the squadron. An EW fighter doing EM can use its EWPs for itself.
(J4.966) MRS, SWAC, and other non-fighter shuttles cannot carry EWPs.
(J4.967) A fighter can turn off its EWPs during any Lock-On Stage of the Impulse Activity Segment.

(J5.0) WARP BOOSTER PACKS

Warp Booster Packs (WBPs) were available for fighters from about Y180 and were used by most fighters and shuttles. These doubled the speed of the shuttle but made them more vulnerable to damage.

NOTE: The terms "booster pod," "dash pod," "warp pack," "dash pack," etc. are used more or less interchangeably. Note that the WBPs on fighters and the WBPs on fast patrol ships operate differently even though the same terms are sometimes used to describe them.

(J5.1) AVAILABILITY

(J5.11) SPECIFIED: The availability of WBPs will be specified by scenario. Generally, they were used during and after Y180. In published scenarios in Y180 or later, booster packs are assumed unless specified otherwise. In "create your own" scenarios (S8.0) of an appropriate time period, players desiring this equipment must buy it. If WBPs are purchased for fighters as a Commander's Option or in a patrol scenario, they must be purchased for all of the fighters on that carrier. The extra sets of WBPs under (J5.42) are then stored on that carrier. The stockpile rule (J5.42) refers to the number of warp packs that will be available if a player purchases them for his shuttles under this rule in a patrol scenario.

(J5.12) SHUTTLES ABLE TO USE: WBPs can be used on any type of shuttle in any role. WBPs are different for each type of fighter; e.g., packs for an F-14 will not fit on an A-10. Fighters which have a corresponding type operated by another empire (e.g., Klingon fighters used by Lyrans, modified Federation fighters built by the Gorns) can use each other's packs since the engines are the same even if the weapons are not.

(J5.13) ACTIVATION: If a manned shuttle is carrying a WBP, it has the option of turning it off during the Energy Allocation Phase of any turn; it must remain off for the duration of that turn.
(J5.131) If turned off, it is treated exactly as if it were not there, i.e., there is no (J5.31) damage and no (J5.21) speed increase.
(J5.132) Even if turned off, its presence can still be detected at Tactical Intelligence Level I (D17.4) and must be announced.
(J5.133) A shuttle fitted with WBPs can be launched with the packs on or off (active or inactive); WBPs are turned off automatically when the shuttle lands. This does not count as a "change" under (J5.14).

(J5.14) SPEED CHANGES: If using speed changes in mid-turn (C12.34), the WBP can be turned on (or off) once during the turn in addition to any change made during the Energy Allocation Phase.

NOTE: (C12.342) explains that this is not a "speed change."

If a fighter uses emergency deceleration (J4.13), the packs are turned off. This does not count against the limit of turning the packs off once per turn. See also (J5.133) for another exception to the limit.

(J5.2) BENEFITS

(J5.21) DOUBLE SPEED: A shuttle carrying an operating WBP can operate at up to double its normal speed. Note that you first double the normal maximum speed, then reduce this speed for EM, crippling, etc.

(J5.22) DROPPING: If the WBP is dropped in mid-turn, the speed of the shuttle is reduced immediately and the controller must change which column he is reading for that shuttle on his chart based on the new speed. A shuttle is not required to drop its warp packs due to crippling.

NOTE: (C12.342) explains that this is not a "speed change."

(J5.23) ESCAPE: Shuttles with WBPs have an advantage in escaping from an exploding ship (D21.56).

(J5.3) DISADVANTAGES

(J5.31) DAMAGE: Each damage point scored on a shuttle carrying an operating WBP is doubled, that is, it counts as two damage points, regardless of the actual speed of the fighter.

(J5.32) COST: The BPV of any shuttle fitted with WBPs at any point during the scenario is increased by one point. This is part of the basic cost of the forces and is not purchased with Commander's Options, although additional WBPs could be purchased that way. The BPV increase for WBPs is used even if the packs are dropped during the scenario.

(J5.4) OPERATIONS

(J5.41) DROPPING: A shuttle carrying a WBP may drop it during the 6B8 Shuttle and PF Functions Stage of the Impulse Activity Segment of any impulse. If dropped, the WBP cannot be recovered. The maximum speed of the fighter is adjusted immediately (J5.22).

WBPs can also be dropped during a dogfight (J7.50-1).

(J5.42) STOCKPILE: All ships can be assumed to have one WBP for each of their shuttles, three for each of their fighters. Some scenario special rules may modify this.
(J5.421) Auxiliary carriers, having a lower supply priority, would only carry two per fighter.
(J5.422) Extra WBPs could be purchased as Commander's Options at a rate equivalent to one BPV point each. Note that the type (of fighter/shuttle) for each WBP is specified at time of purchase.

(J5.43) LOADING: WBPs are assumed to be fitted at the start of the scenario unless the player (or the scenario) specifies otherwise (regardless of Weapon Status).
(J5.431) Ships which are "surprised" (D18.0) will not have WBPs fitted to their fighters.
(J5.432) If not already installed, deck crews may install them as one deck crew operation. They can also be removed as one operation. This can be done in any shuttle box, presuming the specific type of WBP is available. No deck crew action is required to bring the WBP to the bay from wherever it is stored.

(J6.0) PILOT QUALITY *(Optional)*

Like all men (or whatever), the pilots of fighters develop varying levels of skill in their profession. Most pilots start out as "green" and, if they survive, progress to "good." A very few progress to be "ace" quality.

NOTE: Non-fighter shuttles do not use these rules (J6.324). Pilots of such shuttles are always "good."

NOTE: Similar rules are used by PFs; see (K8.0).

(J6.1) DETERMINATION

(J6.11) PROCEDURE: The quality of fighter pilots may be specified by the scenario or may be determined by die roll. If determined by die roll, roll once for each pilot and consult the chart below:

Die Roll	Quality
1, 2	Green
3, 4, 5	Good
6	Ace

Alternatively, players may simply purchase pilots of the desired level in Annex #6, except that no squadron (J4.46) can purchase more than two aces.

(J6.12) MODIFIERS: The die roll may be modified by various factors, including (G21.242) and (G21.142).

(J6.13) CAMPAIGN GUIDELINES: For campaign purposes, a squadron is an entity, with assigned pilots and fighters.
(J6.131) Lost fighters are replaced by various methods (depending on the campaign). Those from the normal supply system arrive with green pilots; those taken from storage have no pilots.
(J6.132) There are no specific rules for a fighter to survive without its pilot, but this could happen in some special scenario situations.
(J6.133) A squadron with an insufficient number of pilots may recruit new (green) pilots from the carrier's shuttle crews. Pilots sent to training (J6.34) are still on the squadron roster and cannot be replaced.

(J6.2) EFFECT OF PILOT QUALITY

(J6.21) GOOD PILOTS operate normally in all respects; they have none of the quality-related modifiers listed below.
(J6.211) If not using pilot quality, all pilots are good.
(J6.212) Only good pilots (not green or ace) can fly an EWF (R1.F7) or two-seat fighter (J4.43). An ace could fly one but would not have any ace benefits. A green pilot could fly one, but none of the EWF (EW loaning, drone control) systems would function.
(J6.213) Pilots of non-fighter shuttles are always considered "good" regardless of their ratings. See (J6.324).

(J6.22) GREEN PILOTS add one to their Turn Mode, subtract one from their speed (after doubling for WBPs), and add one to the die roll for direct-fire weapons. (This is not done during a dogfight as the dogfight calculations already account for pilot quality.)
(J6.221) Other fighters firing direct-fire weapons at a green pilot subtract one from the die roll after all other modifiers.
(J6.222) Their cost for EM is two movement points per turn.
(J6.223) Certain pods (J11.0) cannot be operated by green pilots.

(J6.23) ACE PILOTS subtract one from their Turn Mode (which can never be less than one), add one to their speed (after doubling for WBPs), and subtract one from the die roll when firing direct-fire weapons. (This is not done during a dogfight as the dogfight calculations already account for pilot quality.)
(J6.231) Other fighters firing direct-fire weapons at an ace add one to the die roll after all other modifiers.
(J6.232) An ace pilot can use EM without a speed reduction and can launch and control seeking weapons while using Erratic Maneuvers.
(J6.233) An ace pilot can voluntarily ignore his ace benefits to avoid detection.

(J6.24) BPV: Pilot quality affects the BPV of fighters; see Annex #6A.

(J6.25) DEATH-DRAGGING: The quality of a pilot has no effect on the speed at which a fighter will be death-dragged (G7.54).

(J6.3) CAMPAIGN RECORD KEEPING

Players may, at their option, use this system to keep track of fighter pilots on an individual basis.

(J6.31) EXPERIENCE POINTS: In campaigns, all new fighter pilots enter as green and (assuming that they survive long enough) progress to good and eventually ace by accumulating experience points. These are received for various activities as follows:

Points	Activity
1	Participate in one qualified sortie *
1	Hit enemy unit with any weapon †
2	Score internal damage on a ship or PF †
4	Fire the last shot (or guide the seeking weapon) which destroys a ship or PF. If multiple fighters (or other units) can claim this bonus, none receive it. †
3	Destroy enemy fighter with seeking weapon †
5	Destroy enemy fighter with direct-fire weapon †
5	Destroy an enemy fighter in a dogfight † ‡
2	Force an enemy fighter to breakaway from a dogfight † ‡
5	Capture an enemy fighter
1	Return from sortie with damaged fighter §
2	Return from sortie with crippled fighter §

Except where noted, a fighter pilot can score points for several of the above in a given sortie. See (K8.31) for PFs and for combat against PFs.

* One qualified sortie is defined as launching, moving to within ten hexes of an enemy unit, firing or launching weapons at an enemy unit, and landing on (or the pilot being transported aboard or otherwise rescued by) a friendly unit. A non-qualified sortie is one which does not meet all of the requirements. A non-qualified sortie does not score a "sortie experience" point but does "reset the clock" for the † events.

† Only one of these scores can be earned by fire against a single target during a given sortie. Use the one with the highest score. Points for destroying an enemy fighter are adjusted by adding a point for each class level (at the start of the scenario) that the enemy fighter was superior to your own and subtracting a point for each class level that the enemy fighter was inferior. A two-point bonus is added for destroying an EW fighter in addition to the points shown on the chart. No more than one fighter can receive points for destroying, damaging, or forcing a breakaway by a given enemy fighter. If two or more can claim unequal levels of points, the pilot scoring the higher number receives it and the other(s) receive nothing. If two or more simultaneously claim an equal level, the senior pilot receives the points (if the pilots are equal, toss a coin). If two or more damage a given fighter (which is not destroyed), the first to score damage receives it.

‡ Plus one point for each point that the enemy DFR is higher than yours; minus one point for each point that the enemy DFR is lower than yours, but never less than the points that would be received for destroying it with DF weapons. Use the DFR at the time the dogfight began, including pilot adjustments. Score three points for a kill and one for a breakaway if two fighters defeated one enemy; only the senior pilot (in current points) receives these. Technically there can never be a reduction below five (unless class level in the † case causes the DF-kill score to be less).

§ Only one of these can be scored for a given sortie and only if the shuttle is actually landed on board a friendly ship or base.

(J6.32) PROMOTION: Pilots accumulate points to earn promotion to a higher status.
(J6.321) A green pilot becomes good when he has received ten points.
(J6.322) A good pilot becomes an ace when he has received 50 points (not counting the ten points needed to become good, but including any points over ten earned on missions while green).
(J6.323) Promotion takes effect at the end of the scenario. If a pilot who earned promotion is lost before it takes effect, he does not have the benefits of the higher rating.
(J6.324) Pilots flying non-fighter shuttles and EWFs or two-seat fighters do not accumulate experience points. See (J6.213).

(J6.33) TRANSFER
(J6.331) Green pilots can transfer between different fighter types but lose all experience points if they do so.
(J6.332) Good pilots can transfer fighters (between scenarios) and retain "good" status. If a good pilot transfers to a new fighter type during a scenario, he is rated as "green" for that scenario.
(J6.333) Each pilot accumulates points to advance from good to ace independently for each type of fighter he flies. A given pilot, for example, might be an ace in an F-18 but have only twelve points toward that status in an F-14. This status is not affected by refits of the fighter (e.g., C-refit). If transferred to another type of fighter, an ace pilot might be treated as "good" if he lacks the points for that type.

(J6.34) TRAINING: Pilots can be sent to training. Their fighters remain with the squadron.
(J6.341) During a campaign, pilots held out for a six-month turn are presumed to be undergoing intensive training and gain one-to-six points (roll one die) of experience.
(J6.342) Good pilots with twenty or more points toward ace status cannot be sent to training.
(J6.343) Pilots sent to training are not replaced while away, so the squadron would be short-handed unless excess pilots were available (perhaps having been rescued). Note that replacement fighters generally (but not always) arrive with a green pilot. Fighters taken from storage do not have pilots.

(J6.35) BEGINNING A CAMPAIGN: When beginning a campaign, it would be unrealistic to assume that all pilots are green. Players may assume that a typical squadron of twelve fighters includes two ace pilots, six good pilots, and four green pilots. (For squadrons of different sizes, use a proportional distribution). For each of the good pilots, roll two dice and give them this many experience points toward ace level. (Assign all pilots to a fighter type before rolling). For each green pilot, roll one die and give them this number of points toward good status. In addition to the above, any carrier can be assumed to have a number of additional green pilots equal to half the number of active fighters on the carrier. These spare pilots are used as replacements for pilots that are not recovered after a scenario and operate spare fighters broken out of storage or replacement fighters delivered without pilots by an Fast Carrier Resupply Ship.

(J6.4) LEGENDARY ACE PILOTS

(J6.41) DETERMINATION: Whenever a pilot becomes an ace, roll one die. If the result is a six, the pilot is "legendary." Such a pilot is a legendary officer as in (G22.0); Legendary captains cannot assume the role of a legendary ace pilot.

(J6.42) BENEFIT: A legendary ace is treated as an ace except for two additional benefits:
(J6.421) He (or she) performs better in a dogfight (J7.61).
(J6.422) Even if his fighter (or shuttle) is destroyed or captured in combat, he will somehow manage to almost always return to the nearest friendly unit at the end of every scenario. (No specific game action is required. He will find a friendly place to land if even you disengaged or were wiped out.) This rule is used even if the legendary ace was unable to eject or the POIS was destroyed or captured. That's what makes Legendary Aces a Legend. The precise circumstances are determined by die roll.

DIE	FATE
1	Returns in his own damaged fighter (only one damage point left; repairable).
2	Survival pod is recovered by other friendly forces.
3	Survival pod is picked up, but pilot has been injured and skips the next campaign round.
4	Missing. Roll again after next campaign round; a second four means the pilot has been captured. Exchanges can be worked out by the players using Orions as intermediaries.
5	Returns in a captured enemy fighter of the same or lower BPV. (He will steal an old one from a training unit if he has to.)
6	Killed, to the immense shock of the personnel of the opposite sex.

(J6.43) LIMITATION: Each pilot only gets one chance to become legendary, no matter how many times (or how many different fighters) he qualifies in. However, once a pilot is legendary, the "return" rule (J6.422) applies regardless of what fighter (or shuttle) the pilot is flying.

(J6.5) SPECIAL ASSISTANCE RULE

(J6.51) PROCEDURE: One ace pilot can assist one green pilot by flying in the hex adjacent to his (or in the same hex). In this case, and for as long as this condition exists, both are considered good for movement purposes but have their assigned ratings for combat purposes. This can require adjusting movement points for EM, etc. This rule does not allow a green pilot to carry a pod which is normally prohibited to a green pilot. If the condition of assistance is broken (by voluntary announcement or by violating its conditions), both pilots return to normal operations.

(J6.52) RESTRICTIONS: This condition can only be in effect if both fighters are unrestricted (not held in a web or tractor, etc.) and they are in the same hex or adjacent hexes.

(J6.6) PILOT EJECTION

Pilots of fighters (not non-fighter shuttles, not MRS or SWAC) can eject from their fighter if they fear it will not survive. The pilot then floats in space in an inflatable rescue pod until rescued or the supplies run out.

NOTE: Some of the surviving pilots are, in fact, still in their badly damaged shuttles, but this is not reflected in the rules. Such shuttles are so heavily damaged as to have been destroyed for game purposes.

(J6.61) WHEN PILOTS CAN EJECT: Ejection can be voluntary or involuntary .
(J6.611) A pilot can voluntarily eject from a fighter during the Shuttle and PF Functions Stage (6B8) of any impulse after the Challenge to Dogfight Step and before the Drop WBP Step. Voluntary ejection is always successful.
(J6.612) A pilot automatically (and involuntarily) ejects when the fighter is destroyed. The chance of a successful ejection is 1/3 (a die roll of one or two); any other result means that the pilot did not survive.
(J6.613) In the case of a multi-pilot crew (EWF, heavy fighter), the entire crew is treated as a single entity.

(J6.62) EFFECT OF EJECTION: The fighter is considered to be destroyed. The pilot (if ejection was successful) is assumed to be in that hex in a POIS (Pilot Out In Space) survival pod. Record the hex number.

(J6.63) RESCUE can be accomplished during or after the scenario.
(J6.631) Rescue during a scenario can be accomplished by transporter (G8.0) or by docking with the survival pod. A fighter can dock with the survival pod [use (C13.91) but no tractor is required] and rescue one other pilot, but is thereafter under the restrictions of a green pilot.
(J6.632) Rescue after a scenario depends on control of the battle area and is determined by die roll for each pilot. Each player rolls for his own pilots.

DIE ROLL	CONTROL BATTLE AREA	DO NOT CONTROL BATTLE AREA
1	Pilot is rescued.	Pilot is rescued.
2	Pilot is rescued.	Pilot is lost.
3	Pilot is rescued.	Pilot is lost.
4	Pilot is rescued.	Pilot is lost.
5	Pilot is rescued.	Pilot is captured.
6	Pilot is lost.	Pilot is captured.

There are no modifiers for this table. Legendary aces use the rules in (J6.422) and not this procedure.

(J6.64) OPERATIONS
(J6.641) Fighter survival pods (once successfully placed on the map) cannot be fired at or destroyed (except by collision with an ESG).
(J6.642) Fighter survival pods can be docked to (C13.91), displaced, pulled by a black hole, or put in stasis. Once the pod is docked by (C13.91), the pilot is taken aboard and the pod ceases to exist. The pod cannot be tractored as it is too fragile; a tractor beam would destroy it immediately.
(J6.643) The fighter survival pod cannot move under its own power and has no weapons.
(J6.644) The crew can be removed (with their permission) by transporter.
(J6.645) The pod survives any explosions (ships, mines) in the area.
(J6.646) Pods cannot survive in the WYN Radiation Zone. Pods in a nebula, radiation zone, heat zone, solar flare, or ion storm would survive for a substantially reduced period (i.e., they must be rescued by the end of the scenario or they are lost). Pulsar bursts and gravity waves destroy a POIS on contact.
(J6.647) Pods released in the atmosphere of a survivable planet will reach the surface by parachute within a few hours.
(J6.648) Except as noted, survival pods are treated as inert space debris. Thus, an ESG striking one would lose no strength points.

(J6.649) There is no penalty for destroying a POIS. That is simply the misfortunes of war.

(J7.0) DOGFIGHTING *(Commander's Level)*

Shuttles in the same hex may be declared to be "dogfighting." If so, they operate under certain special restrictions and conditions.

Dogfighting consists of tight maneuvers, often at sub-light velocity, but involving rapid changes of direction and speed. The pilots of shuttles that are dogfighting are very involved and restricted in their ability to do anything else.

These rules, if used, supersede rule (J4.51).

(J7.1) DECLARING A DOGFIGHT

A player may declare a dogfight to exist if one or more of his shuttles is in the same hex as one or more enemy shuttles. The enemy shuttles may not refuse to dogfight; exception (J7.13).

(J7.11) WHEN THE DECLARATION IS MADE: The declaration of a dogfight is made during the Impulse Activity Segment (Shuttle & PF Functions Stage 6B8) of any impulse. If several potential dogfights are in a single hex, all players involved roll one die (re-rolling for ties). The player with the highest die roll selects one of his shuttles and challenges one enemy shuttle to a dogfight (or joins one already in progress). Players then alternate challenging dogfights within that hex until neither wishes to or is able to challenge more shuttles to dogfights. (If there are three or more players, go in rotation rather than alternating.)

EXAMPLE: In a single hex are a Federation F-14, Federation SWAC, and Klingon Z-V. If the Federation player is allowed to challenge first, he will no doubt order the F-14 to engage the Z-V, preventing it from engaging the SWAC. Should the Klingon choose first, the F-14 would still be able to join the dogfight, although it might not be able to destroy the Z-V before the SWAC is destroyed. If two shuttles were available on each side, the situation would be resolved by (J7.43).

(J7.12) UNITS ELIGIBLE TO DOGFIGHT: Fighters and any type of non-fighter shuttles may dogfight. Non-fighter shuttles operate exactly as fighters do, although not as well. Shuttles landed on or in a unit cannot dogfight; also see (J7.23).

(J7.121) Unmanned shuttles cannot dogfight; any challenge will be ignored, and no dogfight will result. (Manned shuttles cannot ignore or refuse a challenge.) The shuttle will be revealed as unmanned in this case.

(J7.122) Unarmed shuttles (e.g., HTS) may dogfight if attacked, but they cannot challenge armed shuttles to dogfight. Shuttles unable to use their weapons (at all, not just until the next turn) are considered unarmed. Note that unarmed shuttles cannot damage shuttles they dogfight, but are taking evasive maneuvers to try to avoid destruction.

(J7.123) Shuttles held in a tractor beam, web, or PPD wavelock cannot challenge (i.e., begin) a dogfight and cannot be challenged.

(J7.13) BOOSTER PACKS: Shuttles with booster packs may not dogfight with shuttles that do not have these packs. Simply turning the packs off does not count as dropping them for this purpose.

(J7.131) A shuttle with booster packs encountering a shuttle without them must drop its packs in order to declare a dogfight.

(J7.132) A shuttle without packs may challenge a shuttle (in the same hex) with packs to a dogfight, but the shuttle with packs does not have to accept and would have to drop its packs in order to do so.

(J7.133) If shuttles with packs are dogfighting and one drops its packs, the other(s) must do so immediately or the shuttle that dropped packs is assumed to have separated, but not by breakaway under (J7.71).

(J7.14) MOVEMENT CONDITIONS: Involvement by a shuttle in Erratic Maneuvers or Tactical Maneuvers does not prevent it from challenging or being challenged to a dogfight.

(J7.141) Once it has joined a dogfight, a shuttle using EM automatically cancels its EM at the start of the dogfight, outside the normal Sequence of Play. Erratic maneuvers cannot be conducted within a dogfight. It cannot resume EM after a dogfight until allowed by the normal rules.

(J7.142) A shuttle using Tactical Maneuvers switches to dogfight maneuvers when challenged. When the dogfight ends, the shuttle cannot resume Tactical Maneuvers but must move at some speed between zero and its maximum allowable (accelerating from zero). See (J7.754).

(J7.143) High Energy Turns and Tactical Maneuvers have no effect inside a dogfight and cannot be performed inside a dogfight.

(J7.2) RESTRICTIONS ON SHUTTLES INVOLVED IN A DOGFIGHT

Shuttles that are dogfighting are under certain restrictions. A shuttle may not leave a dogfight, except as occurs in (J7.43), (J7.662), and (J7.7).

(J7.21) EXCLUSIVE COMBAT: Shuttles in a dogfight cannot fire at any unit not involved in that dogfight.

(J7.22) PROHIBITIONS: Shuttles in a dogfight cannot: gather information; launch or guide seeking weapons against a target not in that dogfight (control could be switched to another unit); lay web; lay, detect, or sweep mines; lend EW points [they can receive them, but cannot use them (J4.95)]; use (G24.0) scout functions; or operate SWAC equipment. (Note: This list is not to be taken as a list of what normal fighters can do outside of a dogfight.)

A shuttle can undertake other non-prohibited actions, such as dropping pods and seeking weapons or pilot ejection, at the appropriate points in the Sequence of Play.

(J7.23) LAUNCH: A shuttle that has just been launched by a ship cannot challenge another shuttle to a dogfight until 1/4 turn after it was launched. A shuttle that has just been launched can be challenged to a dogfight on the impulse after it was launched, but would not be able to fire its weapons until the DRI after the specified time period for that type of weapon had elapsed; see (J1.341) and (J1.342).

EXAMPLE: A Kzinti TAAS is launched on Impulse #4 and is challenged to a dogfight on Impulse #5 by a Lyran Z-Y. It cannot fire its phasers in the dogfight until the second DRI (Impulse #12), because normally it cannot fire its phasers until Impulse #12 and DRI for that impulse comes after the point in the Sequence of Play at which the eight-impulse restriction is released. Likewise, it could not launch drones until the third DRI (on Impulse #20), and of course only some types of drones can be used. If it had launched on Impulse #5 and entered the dogfight on Impulses #6-12, it would have been unable to fire anything on the DRI in Impulse #12.

(J7.24) MOVEMENT: Shuttles involved in dogfights do not move except by drifting (J7.8) or when executing a separation maneuver.

(J7.25) TRANSPORTERS cannot be used to transport anything onto or off of a shuttle involved in a dogfight.

(J7.26) TRACTORS cannot be used to tractor a shuttle which is involved in a dogfight.

(J7.27) SEEKING WEAPONS: Fighters in a dogfight cannot control seeking weapons. A fighter entering a dogfight (whether it challenged or was challenged) must immediately release control of any seeking weapons it is guiding, which are then treated under (F3.4).

(J7.3) FIRING WEAPONS INTO A DOGFIGHT

(J7.31) DIRECT-FIRE WEAPONS can be fired into a dogfight, but will cause the (J7.336) penalties. See (J7.33) for details.

(J7.32) SEEKING WEAPONS: Any seeking weapon that was launched before its target entered a dogfight continues to track that specific dogfight, regardless of which side or what unit is controlling the seeking weapon. If the seeking weapon does not have its own guidance, the ship could cut tracking to avoid sending the seeking weapon into the dogfight and triggering (J7.336). See (J7.335). Also note that (J7.21) prohibits a shuttle in a dogfight from firing at a seeking weapon approaching that dogfight.

(J7.321) If the seeking weapon enters the dogfight hex while the dogfight is still in progress, there is an equal chance that it will hit any

given shuttle in that specific dogfight. Determine this by die roll. If two shuttles are involved, assign one 1-3, the other 4-6. If three are involved, assign them 1-2, 3-4, and 5-6. The results of this impact are resolved in the normal Sequence of Play on the impulse that they enter the hex.

(J7.322) If one shuttle separates by breakaway (J7.71), the seeking weapon will accept it as its target. If two or more shuttles separate by breakaway, use the die roll procedure in (J7.321) to determine which is the target from among those breaking away. If a shuttle executes a breakaway into the hex occupied by the seeking weapon, the weapon hits that shuttle immediately. If multiple shuttles are executing a breakaway into that hex (from the same dogfight), use the die roll procedure.

(J7.323) If the dogfight is terminated (other than by breakaway), the seeking weapon will accept any surviving shuttle as its target. If more than one shuttle survives, use the die roll procedure in (J7.321).

(J7.324) If the dogfight separates into two by (J7.43), use the die roll procedure in (J7.321) to determine which dogfight (not which shuttle) the seeking weapon accepts as its target.

(J7.325) If any shuttle in a dogfight that is the target of a drone (or type-D plasma torpedo) drops chaff, that chaff will affect all drones (and/or type-Ds) from outside of that dogfight which are targeted on that dogfight (subject to the rules on chaff).

(J7.326) If all shuttles in a dogfight that is the target of a seeking weapon are destroyed simultaneously, the seeking weapon loses tracking and is removed. See (FD1.7) for cases when the drone is not removed.

(J7.327) In the event that a scatter-pack shuttle or multi-warhead drone is targeted on a dogfight, it would release its drones at the programmed range (or earlier if triggered by damage). Players then resolve the tracking of each element separately by (J7.32). An SP or MW drone designated as random-targeting would consider the dogfight one target regardless of how many shuttles are in it, and could target one of its submunitions at the dogfight even if the SP or MW was launched after it began. This would not be treated under (J7.33).

(J7.33) FIRING INTO A DOGFIGHT: Units may fire into a dogfight, but this causes penalties for all shuttles friendly to the ship. The primary penalty for doing so is given in (J7.336) below.

(J7.331) Automatic mines (including captor mines) and transporter bombs (whether laid by a ship friendly to one or more of the shuttles in the dogfight or in place before the scenario begins) do not trigger the (J7.336) effect caused by friendly fire into a dogfight. ESGs do count for this effect.

(J7.332) The effects of weapons in this case are adjusted for "green" and "ace" pilots as appropriate (i.e., if the firing unit is another shuttle) when resolving such fire. The EW of the shuttles also applies for all firing units as appropriate.

(J7.333) The effects of (J7.336) cannot be avoided by changing the pilots (assuming that the players have, on their own, developed a system for having extra pilots available). The replacement pilots would be just as distrustful of the ships as the original ones. Similarly, if a new ship enters the scenario, its shuttles would be affected by this rule.

(J7.334) A unit may fire direct-fire weapons at a dogfight, but they affect every shuttle in that specific dogfight (not dogfight hex) equally. (Dice appropriate to the weapon are rolled on the appropriate chart, and the same result is applied to all shuttles in that dogfight.) See the exception in (J7.332) for EW, pilot quality, etc.

(J7.335) A ship may guide seeking weapons into a dogfight; these are then resolved as per (J7.32). If the weapon was launched before the shuttle entered the dogfight and tracking was cut (even if this would have no effect), (J7.336) does not apply. If the weapon was launched after the shuttle entered the dogfight, (J7.336) would apply. The shuttles cannot fire at the incoming seeking weapons, but could have used chaff.

(J7.336) PENALTY: If a ship belonging to one player fires into a specific dogfight containing shuttles belonging to that player (or on the same side in multi-player scenarios), all shuttles belonging to (or on the same side as) that player immediately suffer the following effects for the remainder of the scenario even if no damage was scored (because the pilots now distrust the ships):

1. They may not challenge enemy shuttles to dogfight.
2. All pilot ratings are reduced to "green" even if (J6.0) is not being used by the players. This also applies to non-fighter shuttles, and creates a temporary exception to (J6.213).
3. All dogfight ratings (of the shuttles) are reduced by two points. This applies once for each incident (an incident being fire by one ship during one impulse); dogfight ratings of –50 or more are possible.

(J7.4) SIZE OF DOGFIGHTS

(J7.40) GENERAL LIMIT: No dogfight can consist of more than three shuttles (one Klingon and two Kzintis for example). A given hex can contain any number of dogfights.

(J7.41) ENTRY: No shuttle can enter a dogfight if doing so would increase the number of shuttles in that dogfight above this limit; see (J7.43).

(J7.42) SAME HEX: All shuttles involved in a given dogfight must be, and remain in, the same hex; exception (J7.8). More than one dogfight may be going on in that hex. Players may, but are not required to, set the counters representing dogfighting shuttles aside and mark the dogfight hex with a separate counter.

(J7.43) JOINING: In the event that a dogfight consisting of one friendly and two enemy shuttles is in progress in a given hex, and an additional friendly shuttle enters or is in that hex and demands to join that dogfight, one of the enemy shuttles (owning player's option) must withdraw from that dogfight and begin dogfighting the new shuttle. This is done automatically, without using the usual breakaway rules (J7.71) and without penalty. A third "enemy" fighter could NOT join the dogfight at all due to (J7.41). Given a dogfight with two Federation and one Klingon shuttles, a third Federation shuttle in the hex could not join. However, a second Klingon shuttle could either challenge the third Federation shuttle or join the dogfight with the two Feds and one Klingon, forcing that to split into two dogfights. In that case, the third Federation shuttle could then join either of the new dogfights.

(J7.44) FRIENDLY DOGFIGHTS: Shuttles cannot dogfight friendly shuttles during a scenario. (This might happen in training, but there would be no one firing into a training dogfight, and no such dogfight would take place within range of the enemy.)

(J7.45) MULTI-PLAYER DOGFIGHTS: In the event of a battle involving three (or more) independent parties, certain additional conditions apply.

(J7.451) If a shuttle from a third party joins a dogfight containing two shuttles of two other players, the third party shuttle must temporarily (and for purposes of that dogfight only) ally with one shuttle or the other. This alliance cannot be changed until the mutual enemy is destroyed, at which point the two erstwhile allies begin dogfighting each other.

(J7.452) If a shuttle from one side (empire, player, etc.) wants to join a dogfight containing three shuttles, it may select either of the two "allied" shuttles as its opponent; the dogfight then breaks in two as per (J7.43). It may not select the single shuttle on the other side of the dogfight as its target.

(J7.5) DOGFIGHT COMBAT RESOLUTION

(J7.50) PROCEDURE: When two (or more) shuttles are dogfighting, combat between them is based on certain special rules. The regular movement rates for shuttles in a dogfight are ignored. Instead, combat is conducted and resolved in Impulses #4, #12, #20, and #28, which are known as "Dogfight Resolution Interfaces" (DRI).

DRIs (6C) are conducted after the Impulse Activity Segment of the impulse procedure for the noted impulses. Each DRI consists of the following steps, which are resolved separately for each dogfight; the separate firing stages against shuttles and seeking weapons are an exception to the general rule on one set of simultaneous firings, but this applies only in dogfights:

1. Shuttles carrying booster packs may drop them. Any resulting separations are resolved. Shuttles carrying type-III drones, EW pods, and other items specified by the rules may drop them at this point to improve the DFR of the shuttle.
2. Announce intent to separate (J7.71), and resolve any resulting separations.
3. Determine advantage (J7.6), and resolve any resulting separations or surrenders.

4. Launch dogfight drones (type-VI, etc.) and type-D plasma torpedoes. The impact of these weapons will be resolved in step #8 of the SAME DRI.
5. Drop chaff. This will not affect weapons fired in a subsequent DRI within that dogfight, but will prevent (D11.41) direct-fire in step #7 of the current DRI.
6. Fire phasers and ADDs at seeking weapons launched in step #4 if allowed by firing arcs.
7. Resolve phaser fire between shuttles in the dogfight. RALADs and any other direct-fire weapon that can be used during a dogfight are also fired in this step.
8. Resolve damage from seeking weapons fired within the dogfight.
9. Resolve any collisions or separations resulting from (J7.6621).

Note: The Sequence of Play in earlier editions of *Advanced Missions* refers to seeking weapons arriving from outside of the dogfight. This is an obsolete holdover from the *Commander's Edition;* in the *Captain's Edition*, each arriving seeking weapon is resolved upon its arrival (J7.32).

(J7.51) ADVANTAGE: During each DRI the shuttles must determine advantage (J7.6). They may then conduct combat based on the restrictions of the advantage rules. A shuttle entering the dogfight during the Activity Segment of an impulse including a DRI will participate in that DRI.

(J7.52) PHASERS: Shuttles in a dogfight may fire their phasers during every DRI by using "low power" techniques. This is because the shuttles are at such close ranges that the phasers can be fired at low power and can thus be fired more often. This change to low power is done automatically when the player first fires the phaser during the dogfight. It scores normal damage for Range "2." All phaser combat within a dogfight is resolved as if it were at a range of two hexes; exception (J7.56). No other use of "low power" is allowed in the game. (Use of low-power phasers inside an enemy shuttle bay is specifically prohibited.) Note that the mode of each phaser on a shuttle is determined independently from other phasers on that shuttle.
(J7.521) A shuttle that has fired phasers during a dogfight may not, during the remainder of that turn, fire those same phasers at any target other than a shuttle it is dogfighting. Exception (J7.524).

EXAMPLE: An F-14 is dogfighting a Z-V and destroys it with its gatling (at low power), ending the dogfight. The F-14 could not fire its gatling at other targets during the remainder of the turn because that phaser has already been adjusted for low-power firing; see (J7.524) for an alternative that this F-14 did not use. If another dogfight began later in the turn, the F-14 could fire its phaser during that dogfight.
(J7.522) A shuttle that fired a given phaser at normal power prior to entering a dogfight, may not (during that turn) fire that phaser at low power during a dogfight. Exception (J7.524).

EXAMPLE: A shuttle armed with a single phaser fires it at full power at a ship during Impulse #12 of a given turn. On Impulse #21 that shuttle becomes involved in a dogfight. It could not fire its phaser within that dogfight until the first DRI during the next turn. Note also that, if the phaser had been fired within the last four impulses of the turn, it could not fire in the DRI during Impulse #4 of the next turn because of the required 1/4 turn delay.
(J7.523) Gatlings (at low power) can be fired four times at the same target in *each* DRI, making the Hydran Stingers and the Federation Tomcat, Eagle, and Falcon particularly vicious dogfighters. See (J7.527) for multiple targets.
(J7.524) A shuttle armed with a gatling phaser could fire it at full power in a dogfight. This would be resolved (within that dogfight) exactly as if it had been fired at low power (e.g., at Range"2"). In this case, the gatling could only be fired four times during the entire turn, not during each DRI. This would allow the shuttle, however, to save some of its "shots" for other targets after the dogfight was resolved or to fire its phaser within a dogfight after having fired some shots at another target earlier in that turn.
(J7.525) Phaser-2s can be fired as low power phaser-3s in a dogfight. They cannot be fired as phaser-2s, there being no low-power mode for the phaser-2.
(J7.526) The die rolls for the phasers are affected by EW; this is cumulative with the advantage shift (J7.66).
(J7.527) In the case of a shuttle with two or more phasers covering the same arc, one could engage an enemy shuttle while the other fired at a seeking weapon. A phaser-G could be used in this manner.

(J7.53) DOGFIGHT DRONES: Shuttles may fire type-VI drones (which are known as "dogfight drones") during a dogfight at a rate of one per DRI, this is an exception to (J4.24) as noted in (J7.533). [RALADs are within this limit (J7.562); type-VI drones fired from ADDs are within this limit (J7.542).] The probability of a hit is determined by (J7.661), below; there is no EW effect. Dogfight drones may be substituted for other drones when loading the shuttle (J4.23).
(J7.531) Other types of drones (including MW drones) cannot be fired in a dogfight. Note that seeking weapons fired from outside a dogfight may enter a dogfight under the restrictions of (J7.32).
(J7.532) Type-D plasma torpedoes may be fired during a dogfight. They are treated as type-VI drones for fire restrictions and hit probabilities, but as type-D torpedoes for damage done and defensive fire.
(J7.533) Seeking weapons launched inside a dogfight count against the limit of (J4.24) after the dogfight is over, but seeking weapons launched outside of a dogfight do not count against the limit of (J7.53). The only limits inside the dogfight are those of (J7.53).

(J7.54) OTHER WEAPONS: ADDs and RALADs can be fired at an enemy shuttle during a dogfight (no EW effect), with one round (total per shuttle) during each DRI.
(J7.541) The probability of a hit on a fighter or a drone is one-to-three. Note that RALADs have an FA arc and ADDs have 360° arcs. See (J12.32).
(J7.542) ADDs on shuttles can carry type-VI drones; (E5.41) includes "units" as well as "ships." An ADD can fire one weapon (ADD or type-VI) per DRI; if it fires a type-VI this is within the limit of (J7.53).
(J7.543) No other weapons (fusion beams, disruptors, plasma torpedoes, photon torpedoes, etc.) may be fired during a dogfight. (Should new weapons be added in future products, any exceptions will be noted.)

(J7.55) CHAFF may be employed in dogfighting, in which case it may be used during the DRI when drones are fired or during any impulse if drones (or plasma-Ds) from outside the dogfight are tracking it.

Note that (J7.325) applies only to drones (or plasma-Ds) arriving from outside of the dogfight. Within a dogfight, chaff affects only those drones targeted on the shuttle which were launched during the current DRI.

(J7.56) DEFENSIVE WEAPONS: Rear firing and 360° phasers and ADDs may be fired at drones within the dogfight approaching from the rear. FA and 360° phasers and all ADDs may be fired at drones approaching from an enemy shuttle in a head-on encounter. An FA phaser can be fired at a drone launched by a disadvantaged fighter. The only way (currently) for that to happen is a type-VI drone launched from an ADD. A shuttle in a dogfight can fire LS or RS (but not both) weapons at a target ahead or behind. It cannot fire the weapons on one side (LS or RS) at both forward and rear targets, but could fire LS weapons at a target to the front and RS weapons to a target in the rear or vice versa.
(J7.561) Phasers fire (using low power) at a range of "0" at drones and plasma-Ds.
(J7.562) An ADD will destroy a given drone (launched by another shuttle in that dogfight) on a roll of one-to-three. A shuttle can fire one ADD per DRI, whether from a rail (RALAD) or ADD rack, and whether at a shuttle or a drone. RALADs count against the limit of (J7.53).
(J7.563) ADDs loaded with dogfight drones can fire them at approaching drones under this rule. A hit is automatic.

(J7.6) ADVANTAGE DURING DOGFIGHTS

(J7.60) DETERMINING ADVANTAGE: Players determine who has the advantage in a DRI by the following procedure.
(J7.601) For each shuttle, roll a single die. To the result of this die roll, add the modifiers and factors from (J7.603).
(J7.602) The shuttle with the higher total is considered to be advantaged; the shuttle with the lower rating is disadvantaged. The difference between the ratings is the degree of advantage (J7.66).

Note that in three-shuttle dogfights the lone shuttle may find itself with an advantage over one enemy and at a disadvantage to the other. The lone shuttle would, in such cases, roll separately against each enemy.

If there is a tie, it is treated as a head-on encounter (J7.662), and both shuttles are treated as being advantaged.

(J7.603) Equation: Die Roll
+ Pilot Rating (J7.61)
+ Shuttle Dogfight Rating (J7.62)
+ Speed Rating (J7.63)
+ Special Ratings (J7.64)= Overall rating.

(J7.61) PILOT RATING: The pilot rating of a given pilot is determined by his quality rating.

Pilot Quality		Rating
Legendary Ace	=	+3
Ace	=	+1
Good	=	0
Green	=	–1

All other effects of pilot rating (such as Turn Mode, avoiding drones, assisting junior pilots, etc.) are ignored. This is accounted for in the rating given above.

(J7.62) DOGFIGHT RATING: The rating of the shuttle is determined from the DFR column on the MASTER FIGHTER CHART. This DFR is subject to various adjustments and may be reduced to a number less than zero.
(J7.621) Some fighters are able to carry larger type-III drones on special rails (J4.233) and type-IV drones on "heavy" rails (J4.234). One point is subtracted from the rating of the fighter for each such drone it is carrying. Some other equipment, such as "extra" fighter pods, has the same effect.
(J7.622) Pods carried on a fighter may also reduce the dogfight rating. See (J11.111).
(J7.623) The shuttle has the option of dropping some or all of this extra equipment during the dogfight at the appropriate point in the Sequence of Play to improve its rating. Note that only the items identified above can be dropped, items not listed above cannot be dropped, such as T-bombs on MLSs or in the F-111 internal bays.

(J7.63) SPEED FACTOR: Take the listed maximum speed without packs of each shuttle (as may be modified by crippled status). Subtract the slower speed from the faster. Divide the result by two, and drop all fractions (except 0.5, which becomes one). This is the speed rating of the faster shuttle; the slower shuttle has a rating of zero. If there are three shuttles, this is calculated separately for each pairing.

NOTE: These speeds are the shuttle's maximum capable speed under current conditions (including pods, pilot quality, etc.), not the declared speed before entering the dogfight. For example, a Kzinti HAAS has a maximum speed of fifteen but has been declared by its owner to be operating at a speed of twelve. The speed of fifteen is used in the calculation.

(J7.64) SPECIAL RATINGS are as follows:

Second friendly shuttle in same dogfight	=	+2*
Shuttle attempting to separate	=	+2
Shuttle held the advantage on the previous DRI	=	+1†
Shuttle has three or more points of damage	=	–1
Fighter is a two-seat (normal size) fighter	=	+1

* Owning player designates which of his shuttles is the first and which is the second. Only the second receives this bonus.
† Against that specific enemy shuttle.

(J7.65) EFFECTS OF ADVANTAGE: The effects of advantage are determined with respect to and apply to a single enemy shuttle and the drones fired by that shuttle. A shuttle that is advantaged over one and at a disadvantage to another interacts with each according to these specific rules. This interaction is resolved simultaneously, resulting in the possibility that a shuttle could be destroyed at the same instant it destroyed a different shuttle.
(J7.651) If a shuttle is advantaged, it may:
Fire FA or FX or 360° direct-fire weapons (phasers, RALADs, ADDs); see (J7.661) below.
Launch type-VI dogfight drones; see (J7.661) below.
Launch type-D plasma torpedoes; see (J7.661) below.
Separate by breakaway (J7.71).
Drop chaff.
Fire either LS or RS weapons but not both. See (J7.652) LS/RS section below.
Launch dogfight drones from an ADD rack.
Surrender (J7.73).
It may not:
Fire RA or RX weapons.
(J7.652) If a shuttle is disadvantaged, it may:
Fire RA or RX or 360° weapons; see (J7.663) below.
Drop chaff.
Surrender (J7.73).
Launch dogfight drones carried in an ADD rack.
Fire ADDs at drones or at an advantaged shuttle.
Fire either LS or RS weapons but not both. It could fire LS weapons at a target it was advantaged over and RS at a target which had the advantage, or vice versa.
It may not:
Launch drones (except type-VIs in an ADD rack).
Fire FA or FX weapons.
Separate.
NOTE: The disadvantaged shuttle may fire dogfight drones from an ADD rack. They have the same hit probability as dogfight drones fired by a correspondingly advantaged shuttle (i.e., the negative advantage is used positively). This is correct; the worse you are disadvantaged the more likely this particular weapon can hit him.
(J7.653) If a shuttle is simultaneously advantaged over one enemy and disadvantaged to another, the restrictions apply to each as shown. In such a case, the shuttle could not separate.

(J7.66) DEGREE OF ADVANTAGE: The degree by which a shuttle is advantaged affects the probabilities of a hit. This is shown by the DEGREE OF ADVANTAGE CHART (J7.661).
(J7.661) DEGREE OF ADVANTAGE CHART

Advantaged by	Combat Effect
4 or more	Normal Phaser Combat, Drones hit on 1–4
3	Phaser +1 to die roll, Drones hit on 1–3
2	Phaser +2 to die roll, Drones hit on 1–2
1	Phaser +4 to die roll, Drones hit on 1
0	Head On encounter, see (J7.662).

If the die roll for phaser fire is increased to more than six, add one to the range for each point beyond those that bring the total to six, then determine the result.
Type-D plasma torpedoes use the drone procedure.
ADDs are not shifted. ADDs fired at shuttles and drones are resolved with a one-to-three hit number and as per (E5.31).
(J7.662) In the event of a "head-on" encounter, both shuttles are considered advantaged to a degree of "four." Both may fire normally (and simultaneously), and after firing either or both may execute a "breakaway" (J7.71).
(J7.6621) There is a possibility of collision in a head-on encounter. Both players roll one die after all weapons fire (and only if both survived). If the results are the same, both shuttles are destroyed. Any breakaway is done AFTER rolling for this collision.
(J7.6622) If all three shuttles are at advantage zero, the player owning the pair can order one of them to break away. [In a three-player dogfight (J7.45), the order can be refused.] If this is not done, both fire at the third shuttle, which can then fire at one of them (the fire is resolved simultaneously). If all survive, resolve all three possible collisions simultaneously. Otherwise, resolve as appropriate. Use a separate pair of die rolls for each collision. It is possible that all three shuttles, or the two on the same side, could collide.
(J7.6623) A fighter with LS and RS weapons can fire one but not both at a target in a head-on encounter.
(J7.663) The degree by which a shuttle is disadvantaged affects its ability to fire rear-firing weapons. This is shown on the following table:

DEGREE OF DISADVANTAGE CHART

Disadvantaged by	Combat Effect
1	None, normal fire
2–3	+1 on phasers
4–5	+2 on phasers
6+	+3 on phasers

(J7.7) ENDING A DOGFIGHT

A dogfight continues until all shuttles on one side of it have separated, surrendered, or been destroyed (including destruction by outside forces). A shuttle may leave a dogfight by separating via breakaway (J7.71), dropping its warp booster packs (J7.72), or surrendering (J7.73).

(J7.71) BREAKAWAY: To separate from a dogfight by "breakaway," a shuttle must be advantaged during a DRI. If so, it may separate by conducting a breakaway maneuver. Roll one die and move the shuttle one hex in that direction, facing that direction. The owning player may then turn the shuttle up to 60° and must move it one additional hex. This is an exception to normal movement procedures. (If the shuttle has a maximum speed of one hex per turn, ignore the second hex of movement.)
(J7.711) A player may announce that he will attempt to separate before advantage is determined. Both players do this secretly and simultaneously. The appropriate adjustments are made (J7.64), but if he does win the advantage, he MUST separate. A shuttle that won the advantage without this adjustment MAY separate. If all shuttles in a dogfight declare the intent to separate, then all do so immediately.
(J7.712) Note that a "head on" result in the advantage determination may result in one or more shuttles separating by breakaway.
(J7.713) When executing a breakaway, the shuttle is presumed to be moving at its maximum possible speed (within the current limits of that specific shuttle: crippled, acceleration, pilot quality, pods carried, packs if they are functioning, etc.) for the purposes of mines, asteroids, etc.
(J7.714) Any terrain in the hexes entered affects the fighter normally, e.g., collision with a planet or asteroid damage.

(J7.72) DROPPING BOOSTER PACKS: A shuttle may attempt to separate by dropping its booster packs (J7.13), although the other shuttles could drop their packs and maintain the dogfight. Turning off the WBP does not count as dropping it for purposes of separating from a dogfight.

(J7.73) SURRENDER: A shuttle in a disadvantaged position in a dogfight may surrender. In space, this is done by lowering the landing gear. In the game, a simple statement to that effect by the player is sufficient.

In theory, any shuttle could surrender at any time, but the enemy is not required to accept it except in a dogfight. If accepted, treat it as per this rule. In a campaign situation with lots of distrust, a surrendering pilot could be ordered to eject and then be recovered by docking to his POIS while the fighter is recovered separately by tractor.
(J7.731) A surrendered shuttle drops all carried expendable weapons and any pods (and discharges all energy weapons and deactivates the phasers) and must move as directed by any unit of the enemy force surrendered to within two hexes. (Any chaff packs are retained, but a chaff pod must be dropped. WBPs are retained.) It may be ordered to disengage or move off the board if an enemy shuttle accompanies it (J7.732). The captured shuttle need not obey orders to enter hexes of potential damage from mines or terrain unless the controlling unit also enters the same hexes on the same or a previous impulse.
(J7.732) If all enemy units within two hexes are destroyed, or move out of that distance, the shuttle is released from its surrender and returns to the control of the originally owning player, but MUST immediately disengage or return to a suitable carrier where the pilot must remain for the rest of the scenario. Once the shuttle lands, it could be rearmed/repaired and a different pilot could fly it for the remainder of the scenario if one were available [see (J6.35)]. The pilot who surrendered will be available in subsequent scenarios.
(J7.733) If the controlling shuttle is engaged in a dogfight, the surrendered shuttle will stop (EmerDecel) and remain where it is until the dogfight is terminated or wanders (J7.8) out of control range. This is because all fighter pilots consider their "honor" to be of uppermost importance (non-fighter shuttle pilots feel the same), as would be expected from such fierce individualists.
(J7.734) If the original owning side destroys one of its shuttles which has surrendered (before the pilot is removed), its remaining shuttles will suffer the effects of (J7.33).
(J7.735) A surrendered shuttle cannot be destroyed by the capturing side unless the pilot has been rescued (beamed aboard). The crew of a surrendered fighter cannot refuse to be beamed away from the fighter at the discretion of the capturing side. They could also be beamed aboard by the original owner.

(J7.74) DRIFTING: Drift could result in ending a dogfight (J7.82).

(J7.75) POST-DOGFIGHT RESTRICTIONS: When a dogfight is concluded, several conditions and requirements must be observed.
(J7.751) A separating shuttle may not fire weapons or voluntarily enter another dogfight during that impulse. Otherwise, all shuttles leaving a dogfight by any means operate normally once they have done so.
(J7.752) If all enemy shuttles separate, remaining friendly shuttles take no action for the remainder of the impulse.
(J7.753) When shuttles leave a dogfight (other than by breakaway), their facing is determined by rolling a die and facing the shuttle in the direction indicated by the die roll.
(J7.754) When shuttles leave a dogfight, they may assume any speed up to the maximum permissible under the rules (including acceleration from Speed Zero, crippled, pilot rating, pods, etc.).

(J7.8) DRIFTING

At the end of each turn [after disengagement in the Final Activity Phase (7)], roll one die for each dogfight that remains in progress and move that dogfight one hex in that direction. This represents drifting.

(J7.81) MOVEMENT: The action of "drifting" is considered movement for the purposes of many rules.
(J7.811) Drifting dogfights are presumed to be moving at a speed of three for purposes of mines and at a speed of seven for purposes of asteroids (P3.2), dust (P13.0), and rings (P2.223). There is no modification for "nimbleness." Note that a dogfight can take place within an asteroid hex or within the detection range of a mine without effect; only drifting is considered "movement" for this purpose.
(J7.812) In the case of terrain, each shuttle rolls individually for any collisions. In the case of mines, make one die roll for the entire dogfight and resolve any resulting detonations immediately.

(J7.82) TERMINATION OF DOGFIGHT: In several cases, drift can cause the termination of a dogfight.
(J7.821) In the event that a dogfight wanders into a planet or small moon hex, all shuttles immediately execute a breakaway from the hex of the planet. There is no chance that any of the shuttles will collide with such a large body as the central location (versus a cluster of asteroids) and its size make it more than large enough for the pilots to instinctively evade away from it.
(J7.822) In the event that a dogfight detonates a mine or any shuttle receives asteroid damage (J7.81), all surviving shuttles immediately execute a breakaway. Due to the speed of (J7.713), this entails its own risks.
(J7.823) In the event that a dogfight enters a hex containing an ESG field (or the ESG field moves into the dogfight hex), all shuttles immediately execute a breakaway. All shuttles in the dogfight receive damage as if they had all moved into the radius of the ESG simultaneously and by normal movement. The effects of (J7.33) do not apply in the case of drifting, but do apply if the ship moves the ESG into contact with the dogfight.
(J7.824) If the dogfight drifts into a hex containing a web, all shuttles are immediately caught in the web and the dogfight is terminated. Determine facing by (J7.753). Tholian shuttles, which are never involuntarily caught in their own web, can leave the hex on the next impulse by normal procedures. In a hypothetical battle between two Tholians, the units of one Tholian have a different frequency of web than the other, and they cannot pass each other's webs.

(J8.0) MULTI-ROLE SHUTTLES *(Advanced Rule)*

By the time of the General War, all empires had developed an advanced, multi-role version of their administrative shuttle. These were the forerunners of the SWAC shuttle, although only the Federation developed its MRS into the SWAC configuration.

(J8.1) TYPES OF MRS SHUTTLES

(J8.11) SPECIFICATIONS: The MRS used by each empire was slightly different in many aspects from those used by other empires. Each included certain standard equipment and could, optionally, carry other equipment.

Empire	Standard Equipment Included
Federation, Klingon, Kzinti	1xPh-3 (360°) + ADD (6 rounds) + 2 spaces of drones
Lyran, LDR	2xPh-3 (360°) + ph-2 (360°)
Hydran	1xPh-G (360°) + ph-2 (360°)
Rom†, Gorn, ISC Y150-Y167	2xPh-3 (360°) + ph-2 (360°)
Rom, Gorn, ISC Y165 and after	2xPh-3 (360°) + 2xPlasma-D
Tholian	1xPh-3 (360°) + web spinner + 1x ph-2 (360°)

NOTE: The MRS shuttles in the *Captain's Edition* are different from those in the *Commander's Edition*, and each empire has only one type. Some older products refer to "MRS-A" and "MRS-B" for some empires; use the above MRSs in all such cases.
† The Romulans cannot use non-sublight MRS shuttles prior to Y160. A sublight MRS-S shuttle (YR4.F24) is available to the Romulans in Y150.

(J8.12) OTHER EMPIRES: Orions can use any MRS except Tholian subject to (G15.72); see also (R8.F2). Andromedans do not have MRS shuttles. The WYN use either the Klingon-Kzinti type or the Lyran type. Seltorians do not have MRS (R15.1C). ✯

(J8.13) WEAPONS: The weapons on all MRS shuttles operate and are reloaded exactly as the identical weapons on fighters are. If a ship is provided with an MRS, one shuttle box is fitted with the appropriate ready rack. The direct fire weapons are limited to a maximum range of fifteen hexes by (J1.31).
(J8.131) Drone-armed MRS shuttles have unique drone rails and can carry any combination of any type of drone (including RALADs) up to the limit of two total spaces. (Note that if used as an SP, certain restrictions will apply as to drone types.) An MRS may, for example, carry multi-warhead drones (subject to availability) (FD8.33), but they may not be used when the MRS is used as a scatter-pack (FD7.12).
(J8.132) The ADD on an MRS has six anti-drones. The ADD racks can carry dogfight drones. There are no reloads on board the MRS itself (although they could be carried as cargo and reloaded at some available facility).
(J8.133) Prior to Y165, the plasma MRS had one 360° phaser-2 in place of the plasma-Ds. All of these had been converted to or replaced by the new style by Y167.
(J8.134) The launching of seeking weapons by an MRS is subject to (J4.2). An MRS is governed by the (J4.241) firing rates. Unlike a fighter, an MRS can accept transfer of guidance of seeking weapons (J8.34).
(J8.135) An MRS can carry certain types of combat pods (J11.115).

(J8.2) UTILITY CARGO CAPACITY

(J8.21) BASIC: All MRS shuttles can carry ONE of the following options in addition to its standard equipment:

crew or boarding parties as an admin shuttle
4 small mines (can substitute one large for two small)
20 spaces of cargo, see (G25.132)

Note that the MRS has a crew of two individuals as its standard equipment; it carries the same crew units (total) as an administrative shuttle. See (J2.211). The small mines (i.e., T-bombs) and large mines (i.e., NSMs) carried by an MRS are taken from the ship's stores. They do not come free with the MRS and cannot be purchased for the MRS in excess of the ship's limits. An MRS loaded with mines counts (S4.1) as a shuttle prepared for a special mission.

(J8.22) MINES: If carrying mines, these are loaded and laid as per the Mine Laying Shuttle rules (R1.F6). Note that large mines are available only on minelayers and some Romulan ships (M2.7). Having an MRS on a ship does not allow that ship to purchase NSMs for the MRS to lay.

(J8.23) COST: The equipment listed above does not come with the MRS at no cost. The list shows only the carrying capacity. The cargo is loaded by deck crews with one deck crew operation loading two points of cargo (equal to one small mine or half of a large one). The loading rate specified is much lower than would be the case for a non-MRS, but is correct. The lower rate is due to the special arrangement of the MRS.

(J8.3) OTHER MISSIONS

(J8.31) SCIENCE: All MRS shuttles can be used for scientific research. They count as two lab boxes.

(J8.32) SUICIDE OR WW: An MRS can be used for suicide or wild-weasel missions, but in this case their on-board standard equipment does not function.

(J8.33) SCATTER-PACK: If an MRS is used as an SP shuttle, the drones it normally carries can still be carried (in addition to the SP load) and can be activated as part of that system. See (FD7.38).
(J8.331) The ADD cannot be loaded with drones in SP mode; it can function defensively as an ADD, targeting enemy drones (and, if set for the size classes, any enemy units) within range. In this mode, it fires automatically at a range (1, 2, 3, 1-2, 1-3, 1+3, or 2-3) and size class pre-set by the player. If two or more acceptable targets present themselves, priority will be given to a drone that could strike the MRS on the next impulse over one that will not (assuming both are acceptable targets); it will accept a closer drone over one farther away (if both are acceptable). Otherwise, select the target to be engaged by a random die roll. If the ADD is loaded with type-VI drones, those drones cannot be launched while in SP mode. If tracking for the MRS-SP is cut, the ADD will continue to function defensively if it was set to do so.
(J8.332) As the MRS must be unmanned until the release point, it cannot provide guidance for drones while in SP mode. After the drones are released, and even while the ADD is still functioning in defensive mode (J8.331), the MRS could be boarded per (J1.86) and it would operate under the restrictions thereof. It would also be under the (FD7.4153) restrictions.

(J8.34) SEEKING WEAPON CONTROL: MRS shuttles can control up to six seeking weapons and can assume control of seeking weapons launched by other units. MRS shuttles can be part of a fighter squadron (J4.46) and control seeking weapons fired by that squadron (or other units).

(J8.4) ELECTRONIC WARFARE

MRS shuttles have an Electronic Warfare (EW) capability.

(J8.41) EW SUPPORT FOR SHIP: If uncrippled and within five hexes (effective range) of its home ship and if the MRS has a lock-on to the home ship, the MRS can add two points to the home ship's ECM, two points to the home ship's ECCM, and a further two points to either the home ship's ECM or ECCM (or one each). See (J1.343) for restrictions during the period immediately after launch. Swing points are designated as ECM or ECCM during the Sensor Lock-On Phase of each turn (as EW pods). See (J8.44).
(J8.411) This counts against the limit of EW points received by the ship from lending (D6.3144).
(J8.412) Two MRS shuttles cannot be combined for this, nor can an MRS shuttle be combined with a SWAC. Points loaned by an MRS

can be combined with a scout. The MRS itself does not receive the points loaned to the home ship. The points loaned can be combined with those from an ECM drone (FD9.14).

(J8.42) LOSS OF EW FUNCTION: The electronic systems of an MRS will not function if it is:
crippled (J1.3322),
using Erratic Maneuvers (C10.523),
enters a dogfight (J7.22),
or if it is towed by a friendly ship (tractor beam).
These "electronic systems" include EW lending and the ability to gather scientific or Tac-Intel information.

(J8.43) FIGHTER SQUADRON: An MRS shuttle can be added to a fighter squadron (possibly as the thirteenth unit) and provide EW support to the squadron as an EWF would (J4.93), using the 2 x ECM + 2 x ECCM + 2 x Swing points provided in (J8.41). See (J8.44).
(J8.431) Note that the single source provisions of (J4.922) apply to EW points lent by an MRS to its fighter squadron. A fighter cannot accept points from the MRS and another unit (EWF, SWAC, carrier, etc.).
(J8.432) An MRS is not a fighter and does not receive the built-in fighter EW points (D6.39), nor can it carry EW pods.
(J8.433) An MRS is not a fighter, and it cannot receive the EW points generated by its squadron's carrier (J4.93).

(J8.44) ONE LENDING FUNCTION AT A TIME: An MRS can only perform under one of (J8.41) or (J8.43) at a given time (J4.934). The decision as to which of these abilities to use is made at the beginning of each turn during the assigning of lending EW step of the Sensor Lock-On Phase or when the EW-lending systems are first activated after launch (J1.343).

(J8.5) AVAILABILITY

(J8.51) ASSIGNMENT: MRS shuttles were available in limited supply; most heavy cruisers and Aux-CVAs, carriers, dreadnoughts, and bases were capable of carrying one MRS in place of one admin shuttle. War cruisers (excepting leader and carrier variants) and light cruisers would never carry an MRS except in extremely rare cases noted in a published scenario or (G21.231).
(J8.511) No size class 4 ship (except possibly a small carrier and the WYNs) would normally carry one. No other ship could have more than one, except a CVA or SCS which could have two. See (G21.231) for an exception, and some rare ships are listed as having two. The B10, for example, is known to have had two, and the conjectural battleships in *Module R5* may also have two each.
(J8.512) No fleet (normally a maximum of eleven ships) would have more than three MRS shuttles among them unless authorized in a published scenario.

This reflects that while many ships are capable of carrying and authorized to carry an MRS, there are never going to be enough to go around. (MRS shuttles are prime targets and have a life expectancy in a fleet battle measured in impulses, and in single digits at that.) As theater commanders deploy their forces, some dedicated staff officer maintains a running inventory of the MRS shuttles and switches them between ships (or recommends switching ships between areas) to provide some MRS capability to all of the deployed fleets and squadrons. In a complete player campaign, players might create their own rules of MRS production and can then do this task for themselves.
(J8.513) While an MRS would appear to make a superb fighter, they were too expensive and scarce to be used as fighters in squadron strength. (The BPV cost for the MRS is unrealistically low, as it is for the SWAC, based on the fact that no more than one or two would be present.)
(J8.514) Many ships list an MRS in their ship description. This means that an MRS can be purchased for that ship as a Commander's Option or as a part of the overall force total [under (S8.0) or in a published scenario). The ship is not required to buy one.
(J8.515) Tugs have a ready rack for an MRS but are only issued the MRS (and its supplies) if they have a battle or carrier pod. This does not allow any given tug without those pods to show up with an MRS claiming it is using the ready rack installed for use with a carrier or battle pod that might be carried some other time. In a campaign where such a tug starts with an MRS and drops the pod, the survival of the MRS is determined by the scenarios.

(J8.52) COST: No ship includes an MRS in its BPV (even if the ship description lists one). This is because multi-role shuttles are an advanced rule; players are not obligated to use them. They are not reflected on the SSD; increase the damage points on the shuttle record tracks appropriately in their case. Replacing an administrative shuttle with an MRS increases the BPV of the ship by eight points. This includes the cost of the MRS, the cost of its ready rack and deck crew, and the "trade-in" on the administrative shuttle.

(J8.53) SUPPORT: Any ship with an MRS shuttle uses the deck crews provided by (J4.814) unless (J4.815) applies. It is assumed to have an appropriate ready rack for its weapons, twelve reload ADDs (if the MRS has an ADD system), four extra chaff packs, and twenty spaces of drone storage (if the MRS uses drones; those with type-D plasma torpedoes have twenty stored).
(J8.531) The twenty drone spaces include, as a standard load, two type-IV, twelve type-VI, and ten type-I drones. These are "slow" and the speed costs must be paid depending on the year. (Players may experiment with other combinations of a total of twenty spaces.) The twenty spaces are composed of ten spaces of primary use and ten identical spaces of reload drones for purposes of cost calculations for special or improved drones. Players may voluntarily omit some of these drones to reduce costs.
(J8.532) In the case of a carrier, these items are added to the existing equipment stockpile and weapon storage.

(J9.0) SWAC SHUTTLES *(Advanced)*

The Federation SWAC (Space Warning And Control) shuttles are the only units in the game with this system. The other empires portrayed in the game never produced an equivalent shuttlecraft. These systems cannot be installed on a ship, although similar effects can be created by scouts.

(J9.1) ELECTRONIC SYSTEMS

SWACs have certain special electronic equipment which they can operate if they are manned and flying independently (i.e., not on any planet, ship, or base).

(J9.11) ELECTRONIC WARFARE: If uncrippled within ten hexes (effective range) of its carrier (or home ship), and if the SWAC has a lock-on to the carrier, it adds two to the ECM, two to the ECCM, and can add two more points to either ECM or ECCM (or one of each) of its carrier. See (J9.15).
(J9.111) These points count against the limit for points received by lending from outside sources (D6.3144) and cannot be combined with EW from an MRS (J8.412) or another SWAC. This capability is separate and independent from (J9.12).
(J9.112) The "swing" points are designated as ECM or ECCM during the Sensor Lock-On Phase of each turn (as EW pods).

(J9.12) SCOUT FUNCTIONS: SWACs have two scout function channels (G24.1) which can be used for any of the following scout functions:
22 Breaking lock-ons
24 Controlling seeking weapons (A SWAC can control six seeking weapons; if one channel is also used for this purpose, it can control twelve. This capability cannot be further improved.)
25 Identifying seeking weapons and shuttles.
26 Detecting mines (range limited to six hexes)
27 Gathering information
29 Tactical intelligence
(J9.121) It can use either channel for any of the functions listed; it can use its channels for the same function or different functions. [As the SWAC counts as two labs (J9.333), these are available for use with functions 25 and 27. If used for those functions, the "labs" are not available for other uses on that turn.]
(J9.122) The SWAC's own weapons will not blind its channels.
(J9.123) These channels will not function on a wild SWAC.

(J9.124) A SWAC with a channel operating under functions 24, 25, 26, 27, or 29 has improved detection capabilities against hidden units (D20.232).
(J9.125) A SWAC provides no special benefit against units disengaging under (C7.2).
(J9.126) A deployed SWAC shuttle does not count as a scout for purposes of (S4.22).

(J9.13) LOSS OF FUNCTION: The systems provided by (J9.1) will fail to function under some circumstances.
(J9.131) All of the electronic functions will cease if the SWAC is crippled (J1.3322). This does not apply to a wild SWAC, except that a crippled SWAC cannot go wild. A wild SWAC that is crippled would remain wild.
(J9.132) The electronic systems of a SWAC will not function if it is towed by a friendly ship (tractor beam), except that a SWAC which is already wild will remain wild.
(J9.133) If the SWAC is using Erratic Maneuvers, the electronic systems will not function (C10.523).
(J9.134) The electronic systems will not function in the period immediately after launch (J1.343). Exception: It could be launched "wild" (J9.212).
(J9.135) A SWAC which has gone wild (J9.2) cannot use any other electronic systems (including labs) while it is wild.
(J9.136) The electronic systems of a SWAC will not function if the SWAC is involved in a dogfight (J7.22). A manned (or unmanned) wild SWAC (J9.2) cannot enter a dogfight. A manned wild SWAC can be challenged to a dogfight. It continues to function normally. However, due to the consequences of (J3.3), the enemy fighter would be advised to leave the wild SWAC alone.

(J9.14) FIGHTER SQUADRON: A SWAC shuttle can be added to a (J4.464) fighter squadron (possibly as the thirteenth unit) and provide EW support to the squadron as an EWF would (J4.93), using the 2 x ECM + 2 x ECCM + 2 x Swing points provided in (J9.11). This is done instead of, rather than in addition to, support for the carrier under (J9.11). See (J9.15).
(J9.141) Note that the single source provisions of (J4.922) apply to EW points lent by a SWAC to its fighter squadron.
(J9.142) A SWAC is not a fighter and does not receive the built-in fighter EW points (D6.39), nor can it carry EW pods. It cannot receive the EW points generated by its squadron's carrier (J4.934).

(J9.15) ONE LENDING FUNCTION AT A TIME: A SWAC can only perform under one of (J9.11) or (J9.14) at a given time (J4.934). The decision as to which of these abilities to use is made at the beginning of each turn during the assigning of lending EW step of the Sensor Lock-On Phase or when the EW-lending systems are first activated after launch (J1.343).

(J9.2) WILD SWAC SHUTTLES

A SWAC shuttle on the map can operate as a very powerful wild weasel by the procedure described below. This is, perhaps, the most important use of the SWAC shuttle. Ships cannot "go wild;" although see (J9.245).

(J9.21) PROCEDURE: First, the controlling player indicates the SWAC shuttle and declares that it is "going wild." Second, the crew of the SWAC may be (but is not required to be) transported (by transporter) to a friendly ship.
(J9.211) The SWAC must stop or slow to a speed of four or less. This reduction in speed is immediate and automatic and exempt from deceleration limits. The SWAC cannot accelerate beyond a speed of four while wild.
(J9.212) A SWAC shuttle that is on its carrier could be launched (with or without a crew) as a wild SWAC.
(J9.213) The crew of a SWAC, if killed or captured, is worth 50% of the cost of the SWAC itself (in addition to the value of the SWAC).
(J9.214) The decision to go wild may be made on any impulse during the "go wild" step of the Scout Functions Stage 6B5. Shutting down a wild SWAC is covered under (J9.244). See (J9.212).
(J9.215) The channels (J9.12) immediately cease performing any other function at the point where the SWACs goes wild. The prior use of the channels for any other allowed function during a turn does not prevent the SWACs from going wild

(J9.22) UNMANNED WILD SWACs: If the SWAC shuttle is unmanned, it cannot fire its weapons, even in its own defense. Further, it must move in a pre-programmed regular pattern. This pattern is established by the owning player before the crew is evacuated; the speed cannot exceed four. The pattern cannot violate the normal rules of movement. The pattern must be one (and only one) of the following:

A. The SWAC will move in a circle of a specified radius not less than two hexes. The center point of the circle must be defined. Movement effects, such as a nebula or black hole, also move the center of the circle.

B. The SWAC will move in a straight line, possibly including a regular pattern of sideslips (one slip after moving a set number of hexes) in one direction.

C. The SWAC will move in a zig-zag pattern. This is defined as moving a set number of hexes, changing facing 60° right, then moving a set number (possibly a different number) of hexes, changing facing 60° left, and then repeating the pattern. The first change could be right or left, but the two must then alternate.

(J9.23) MANNED WILD SWACs: If the crew remains on board, they can fire the weapons and maneuver the SWAC, at a speed of four or less, at will. They cannot use the scout function channels (J9.135), which are engaged in the "wild" function. See (J9.136) for dogfights.

(J9.24) EFFECT OF WILD SWACs: From the impulse after the shuttle goes wild, all seeking weapons (including friendly ones: including drones, seeking shuttles, and plasma torpedoes) within fifteen hexes of the wild SWACs, and all seeking weapons which enter that radius, accept the wild SWAC as their target and begin to home in on it. See the exceptions in (J9.243).

The SWAC can attract so many weapons (even those within one hex of hitting their original targets) because of its tremendous electronic power. Since SWAC shuttles are in limited supply, are extremely valuable for other functions, and cost the Federation almost as much as a frigate, this is obviously a tactic that should be used only in the most desperate of circumstances or when the SWAC is well defended.
(J9.241) This condition exists regardless of the speed or actions of other ships on the map.
(J9.242) From the instant that the wild SWAC is destroyed, all seeking weapons that have accepted it as a target continue to home in on the hex in which it was destroyed while new seeking weapons entering the area do not. There is no "explosion period" as there would be with a WW (J3.211), but the explosion hex cannot be voided. Use the wild weasel collateral damage system (J3.3) for damage on the SWAC and units in the hex.
(J9.243) The following weapons are not affected by a wild SWAC: all direct-fire weapons, all dogfight (type-VI) drones with their own lock-on, and all seeking weapons on a ballistic course. ADDs are not affected by SWACs or wild SWACs. (Type-D plasma torpedoes, although unique in many ways, ARE affected by SWACs, as are all other types of plasma torpedoes.)
(J9.244) If the original crew has remained on board or a SWAC crew is transported aboard, it can shut down the wild SWAC mode at any point, causing the shuttle to revert to a standard SWAC.

(J9.2441) A crew from a different friendly ship could be transported aboard and could shut down the wild systems and pilot the SWAC, but could not operate any of its systems.
(J9.2442) If a wild SWAC is shut down, all weapons targeted on it remain targeted on it unless diverted (by another wild SWAC) or destroyed. The seeking weapons could be diverted by (G24.23) or "destroyed" by (G24.22).
(J9.2443) After a wild SWAC is shut down, it cannot go wild again for one full turn (32 impulses).
(J9.2444) If the shut down wild SWAC lands on a ship, any weapons following the SWAC accept the ship as their target and are treated as per (J9.245), except that in this case the SWAC does not explode.

(J9.245) An active wild SWAC cannot voluntarily land (on a ship, base, planet, asteroid, or anything else) while active. If any ship pulls the SWAC into its shuttle bay, the SWAC explodes as an eighteen-point suicide shuttle (even if there is a crew on board); all of the damage is applied as internal damage (the first of which is used to destroy the entire shuttle bay and the remainder distributed by the DAC, ignoring phaser direction and armor). It will not attract additional seeking weapons.

(J9.2451) In this case, any weapons previously targeted on the SWAC accept the ship as their new target.
(J9.2452) A wild weasel dropped by a ship that has assumed wild SWAC status will have no effect whatsoever on weapons that had accepted the SWAC. (It would affect weapons targeted on the ship alone.)
(J9.2453) The speed of the "wild SWAC ship" has no effect on its status.
(J9.2454) If the "wild SWAC ship" cloaks, the cloak is treated as void for purposes of those seeking weapons from (J9.2451).
(J9.246) Chaff dropped by a wild SWAC has no effect on weapons attracted by its wildness, even after the wild systems are shut down.
(J9.247) Mines consider a wild SWAC to be a ship of the size class of its home ship.
(J9.248) If two wild SWACs are present, weapons move toward the nearest of the two. If equally near, decide by die roll (for each seeking weapon) which will be followed.
(J9.249) Seeking weapons that have accepted a SWAC as their target are still under all normal seeking weapon rules, including, for example (F3.31) conditions for control and (F3.4) releasing control.

(J9.3) RESTRICTIONS ON SWAC SHUTTLES

(J9.31) CVA ONLY: SWAC shuttles are only carried by Federation CVA-class *(Napoleon)* and SCS-class *(Julius Caesar)* ships. Ships listed in this rule and its subsections, and subsequent ships that list in their own ship descriptions the ability to operate SWAC shuttles are the only ships able to operate SWAC shuttles. SWAC shuttles are never included in the BPV of a ship even if a ready rack is shown available and damage tracks on the shuttle table for the ship show them. A standard admin must be exchanged for each E-2 SWAC the ship might operate, and two standard shuttles must be exchanged for each E-3 SWAC the ship might be allowed to operate and appropriate BPV adjustments made.
(J9.311) In some rare (and noted) cases, a Federation CVS/CVB might carry one SWAC or one could be assigned to a starbase. There was one recorded historical case of one being on a CVL. This would replace the MRS.
(J9.312) SWACs cannot be transferred to other ships (making those ships the "home" ship) before, during, or after a scenario.
(J9.313) A CVA-Tug which replaces a lost CVA in a campaign could, in theory, have a SWAC, but would have to give up another shuttle to make room for it. See (R2.22).

(J9.32) SERVICE: SWAC shuttles cannot be serviced, repaired, rearmed, or refueled by any ship except their assigned ship (or another unit operating SWACs). SWACs have an assigned box with a ready rack and cannot be serviced in any other box except for chaff packs. No other ships have the specially trained crews and special facilities and tools for this function.

(J9.33) OTHER MISSIONS: SWAC shuttles can be used for other missions.
(J9.331) A SWAC has a crew of five (pilot, commander, three operators). One crew unit provides two SWAC crews; a carrier has one crew for each of its SWACs. Extra SWAC crews cannot be purchased. It cannot operate its electronic systems without the three operators. A legendary science officer cannot operate a SWAC alone (J2.212).
(J9.332) A SWAC has only limited cargo-carrying capabilities since most of the space is filled with systems and their operators. It can carry five points of cargo (G25.132) or half of a crew unit, but if so its electronic functions will not operate. It can be overcrowded (G9.14) with one complete crew unit.
(J9.333) A SWAC has the scientific capability of an MRS shuttle (J8.31), i.e., it counts as two lab boxes.
(J9.334) A SWAC can be used as a suicide shuttle or wild weasel, although the cost makes that a desperate act. If used as such, none of its SWAC capabilities function.
(J9.335) SWACs cannot be used as scatter-packs.
(J9.336) A SWAC can be used in combat, but its capabilities are limited, and it is too expensive and vulnerable for this to be a routine mission.

(J9.34) CAPTURE: The only ways to capture a SWAC shuttle are to:
- capture the ship it is on.
- transport personnel directly aboard the SWAC and capture it as a shuttle (D7.6).
- pull the SWAC into the bay (G7.8).

(J9.341) If the SWAC is not wild, the normal procedures for capturing a shuttlecraft apply.
(J9.342) If the SWAC is wild, the opposing player must transport a crew unit (actually just one or two individuals) on board. In this case, roll one die at the end of the turn, and note the result indicated below:

1	=	SWAC shut down, under control of boarders.
2-3	=	Roll again at the end of the next turn.
4-6	=	SWAC destroyed, crew unit lost.

A legendary engineer gets a –1 on the shut down die roll.
(J9.343) The (J9.342) procedure assumes that there is no crew or boarding party on the SWAC friendly to it. If there is, a single boarding party can be transported aboard in an attempt to eliminate these personnel by (D7.6). However, only a naval "crew" unit, not a marine boarding party, can try to deactivate the system and actually capture the shuttle. Due to space limitations, the marines must be removed at the same time as the naval crew unit is added, requiring two transporter actions.

(J9.4) SWAC WEAPONS

(J9.41) PHASER: A SWAC has a phaser-G with a 360° firing arc.

(J9.42) ANTI-DRONES: The ADD system on an E-2 SWAC shuttle has six rounds. No ADD reloads are carried on board the shuttle. ADD reload storage (twelve rounds) is in addition to the carrier storage and can be co-mingled with it. The ADD system on a SWAC can use type-VI dogfight drones.

(J9.43) CHAFF: An E-2 SWAC shuttle has one chaff pack.

(J9.44) SUPPORT: A SWAC comes with one deck crew, two sets of reloads for its ADD (half of which can be type-VI drones), and six extra chaff packs. It cannot use fighter pods.

(J9.5) E-3A HEAVY SWAC

The Federation later developed a larger version of the SWAC designated E-3A (or E-3). The terms E-3 and E-3A are interchangeable. This used a two-space shuttle frame derived from the HTS. The rules below parallel (and modify) the rules for the E--2C. Rule (J9.511) for example modifies rule (J9.11).

(J9.51) ELECTRONIC SYSTEMS
(J9.511) The E-3 has two ECM, two ECCM, and four swing points available for lending under (J9.11).
(J9.512) The E-3 has three scout function channels.
(J9.513) The E-3 can lose its electronic functions in the same manner as the E-2 can.
(J9.514) An E-3 can join a fighter squadron (J4.464) as an E-2 can.
(J9.515) An E-3 is still required to choose between lending to its carrier and providing EW support to its squadron (J9.15).

(J9.52) WILD SWACs: The E-3 can go wild and is treated as the E-2 is.

(J9.53) RESTRICTIONS
(J9.531) E-3 SWACs were never carried by any units other than CVAs, SCSs, and starbases. Due to the very limited numbers, the normal operation (when E-3s were available, which was very rare) was one E-2 and one E-3 per carrier. Production rate was only one E-3A per year. This is not listed in the description of those units because E-3As were so rare.
(J9.532) E-3s require special facilities: two adjoining shuttle boxes fitted with its unique ready rack.
(J9.533) An E-3 requires a full crew unit of system operators, but can also carry one marine boarding party or five points of cargo. It counts as three lab boxes. Otherwise it is treated as an E-2 for these purposes. See (D7.836) in the event that the E-3 is boarded while carrying a defending BP. This would not affect the operation of the larger E-3, even though the smaller E-2 loses its SWAC abilities when using (J9.332).

(J9.534) For purposes of capture, an E-3 is treated as an E-2, except that a boarding party sent aboard to eliminate the crew need not be extracted before a naval crew is added.

(J9.54) WEAPONS AND SUPPORT: Same as (J9.4), except that an E-3 SWAC has a twelve-round ADD (24 reloads), two chaff packs on board the E-3, and twelve spare chaff packs in addition to carrier storage. It cannot use fighter pods.

(J10.0) HEAVY FIGHTERS

All of the fighter-using empires eventually (Y175 or later) began using so-called "heavy" fighters. These were larger versions of the previous fighter-shuttles, but with more weapons, larger (three-to-four man) crews, and built-in electronic warfare equipment.

These heavy fighters operate within the same rules as fighters, with the exceptions noted here. The heavy weapon range is the same as that of the empire's PF. (Federation A-20: Range 12.)

The first "space control ships" were CVAs with six heavy fighters replacing twelve of their standard fighters. Most heavy fighters were deployed in this manner or on bases (including ground bases). A few CW and CVS carriers carried squadrons of six heavy fighters. The Federation carried F-111 fighters on its two NVH carriers, but these are in *Module K*.

True fast patrol ship tenders, designated by a "P" in their notes column on the Master Ship Chart (Annex #3), such as space control ships cannot operate heavy fighters even though they may also be true carriers, i.e., designated by a "V" in their notes column on the Master Ship Chart.

See (JC0.0) in *Module C3A* for conjectural Andromedan heavy fighters.

(J10.1) SIZE

Due to their larger size, each heavy fighter occupies two shuttle/fighter boxes in the same shuttle bay and normally has two deck crews.

(J10.11) SERVICE: Because of their unusual design, heavy fighters can only be rearmed in a bay with a ready rack designed for them.

(J10.111) To convert a given carrier (or escort with ready racks) to use heavy fighters (which was done, to a limited extent, historically) mark the fighter boxes as adjacent pairs, each able to hold and service one heavy fighter. Heavy fighters cannot be mixed into squadrons with non-heavy fighters. Federation F-111 and A-20 fighters can only be used on carriers specifically designed for them, other carriers can use F-101s. Carriers of Size Class-4 cannot operate heavy fighters unless they are able to carry a full squadron of six. Exception, HDWs (*Module R6)* might be configured to operate fewer than six heavy fighters. No single carrier can have more than one squadron of heavy fighters, e.g., a CVA cannot have more than one squadron of heavy fighters. Exception: a Starbase or Stellar Fortress (with fighter modules) might operate two squadrons of heavy fighters.

(J10.112) A maximum of four deck crews can reload a single heavy shuttle at the same time. Four more can reload the ready rack if it and the fighter are both unloaded. If a damage point is allocated to either box of a heavy fighter and the heavy fighter does not chain react (J10.14), i.e., it is unarmed, half the deck crews working on that fighter (round fractions up) are killed under (J4.811). If both boxes of a heavy fighter are destroyed, any deck crews working on that fighter are killed, even if an earlier volley destroyed the first box, or damage on an earlier turn, and irrespective of the armed status of the fighter.

(J10.113) Heavy fighters located in a non-heavy fighter shuttle box may use (J4.8962); see (J4.899).

(J10.12) BALCONY: Each heavy fighter occupies two positions on a balcony system.

(J10.13) DAMAGE IN BAY: A damage point scored on one of the two boxes holding a heavy fighter automatically scores eight damage points on the shuttle itself if it is unarmed [if it is armed, see (J10.14)]. Such a damage point also destroys the ready rack (and all munitions on it or in the process of being loaded on it or from it to the fighter) (J4.887). Note that while a second shuttle box is available, this can only be used to load the shuttle under (J4.8962), the ready rack can only be restored by repairing the destroyed shuttle box, and is only repaired if both boxes of a linked pair are repaired. As long as one box of a pair is damaged the ready rack is non-functional. See (J10.112) for deck crews.

(J10.131) A heavy shuttle can launch from or land in a pair of shuttle boxes, one of which is "destroyed," but it cannot be rearmed or repaired in such a pair of boxes except by (J4.8962). In this case, (J1.661) would not apply, and destruction of the remaining undestroyed box would destroy the fighter.

(J10.132) Shuttles can be transferred to another pair of boxes using (J1.416).

(J10.14) CHAIN REACTION: Each box of a pair is considered separate for purposes of a chain reaction explosion (D12.0), but the second box of a heavy fighter pair must be the target of the chain reaction if it has not already been destroyed.

EXAMPLE: Two A-20s are in a shuttle bay with several other shuttles; each A-20 occupies two boxes. One of the boxes occupied by A-20 #1 had been destroyed before it landed. A shuttle damage point destroys the second box of A-20 #1, destroying the fighter. Since that fighter was armed, a chain reaction begins, which destroys another shuttle box (and produces a further point of random internal damage, which we will ignore for this example). The player selects the left box of A-20 #2, destroying the box and applying eight damage points to A-20 #2. If A-20 #2 was unarmed, that would be the end of it. But since A-20 #2 is armed, the chain reaction continues. The resulting shuttle damage point *must* be applied to the remaining box of A-20 #2, which of course destroys A-20 #2 *and* continues the chain reaction, producing yet another shuttle damage point which is scored on an unarmed MRS shuttle, ending the chain reaction. (It would have been better to destroy the MRS first and get this over with, but we wouldn't have an example that way.)

(J10.15) EXTERNAL DOCKING: Heavy fighters can dock in two adjacent external bays.

(J10.2) LAUNCH RATES

(J10.21) GENERAL: Despite their size, heavy fighters are launched and recovered at the same rate (J1.50) as normal shuttles.

Exception: No heavy fighter can use a launch tube (J1.54).

(J10.22) FI-CONS cannot carry heavy fighters.

(J10.3) DESIGNATION

(J10.31) LISTING: The following fighters are considered double-sized:

Federation A-20 and F-111
Gorn Wyvern G-30
Hydran Super-Stinger
ISC Heavy Fighter (HF)
Klingon Zegurnii-H (Z-H)
Kzinti Large Attack Shuttle (LAS)
Romulan Tribune
Tholian Spider-IV

The Δ mark was used to mark heavy (double space) fighters on the Master Fighter Chart (Annex #4), but is now obsolete. All new versions of the Master Fighter Chart include a column for "Size," with single-space fighters generally designated with a "1" (Federation F-15 and F-14 fighters are somewhat larger and designated with a "1+"). Double space fighters are designated by a "2", triple space fighters (called medium bombers) are designated by a "3" while quadruple space fighters (called heavy bombers) are designated by a "4."

(J10.32) HEAVY SHUTTLES: The "Heavy Transport Shuttle" (R1.F5) and the E-3A Heavy SWAC are double-sized shuttles and use these same rules, although they are not fighters. The Δ mark was used to mark heavy (double space) shuttles on the Master Fighter Chart (Annex #4), but is now obsolete. All new versions of the Master Fighter Chart include a column for "Size," with single-space shuttles designated with a "1." Double space shuttles are designated by a "2", triple space shuttles are designated by a "3" while quadruple space shuttles are designated by a "4."

(J10.33) PHASERS: Heavy fighters have phaser-2s because of the limited fire control; no fighter has phaser-1s. The phaser-2 is limited to a maximum range of fifteen by (J1.31). Not all heavy fighters have phaser-2s.

(J10.4) WEAPON FIRING RATES

(J10.41) DRONES: Heavy fighters armed with drones (or type-D plasma torps) can fire a maximum of two drones (or two type-Ds, or one of each) during any given turn. There is no required interval between launching each drone; they could be launched on the same impulse. Some fighters have specific exceptions to these limits. Otherwise, they operate as do any other fighters (e.g., FA arc to launch weapon, guide from any direction).
(J10.411) The fighter cannot launch more than two drones during any 1/4-turn period (covering parts of two consecutive turns). RALADs count against this limit.
(J10.412) Heavy fighters can fire these two drones at the same target or at different targets [see (J10.43) below].
(J10.413) Anti-drones (firing ADD ammunition) are not drones and are not included in this restriction. ADDs can be fired at their normal rate independent of all other weapons.
(J10.414) Heavy fighters which are capable of firing type-III drones may use the special firing rate listed in (R1.F9).

(J10.42) HEAVY WEAPONS: Heavy fighters armed with photon torpedoes, disruptors, fusion beams, hellbores, or plasma-F torpedoes can fire any or all of their "charges" during a turn (within the limitations of the appropriate rules), but cannot fire the same weapon twice on one turn (or within 1/4 turn) using different charges. (Hydrans could fire both charges for a given fusion beam on the same shot, as always, to extend the range.) Those heavy fighters with two plasma-F torpedoes have two separate plasma-F mounts.

(J10.43) MULTIPLE WEAPONS: There is no restriction or interaction between firing weapons of different types. A heavy fighter could fire/launch phasers, drones/plasma-Ds, and a heavy weapon (assuming it had them all) during the same impulse. These limits also apply to the A-10.

(J10.44) SEEKING WEAPONS CONTROL: Heavy fighters can control up to six seeking weapons and can accept transfers of control from any other units. See (J4.221).

(J11.0) FIGHTER PODS *(Commander's Level Rule)*

Fighters have the ability to increase and enhance their capabilities by carrying one or more pods. There are several types of pods. One of these, the Electronic Warfare Pod, was originally published in (J4.96) in *Basic Set*. That sub-rule is replaced by this rule.

(J11.1) GENERAL FIGHTER POD RULES

(J11.11) CARRIAGE: Generally speaking, each pod replaces one one-space drone, occupying that drone rail (J11.12) or plasma-D rail. Replacing a drone (or plasma-D) with a pod does not affect the performance of the fighter. The BPV of the fighter must be adjusted based on the cost of the pod and any drones it replaces.
(J11.111) Alternatively, each fighter can carry two pods in addition to any drones. Fighters which are not armed with drones can carry two pods in this manner. For each extra one carried (to a maximum of two), reduce the speed (with or without warp packs) and the dogfight rating (J7.62) of the fighter by one. The DFR can be reduced below zero.
(J11.112) A fighter can drop an "extra" pod carried under (J11.111) to improve its speed and DFR, but the pod cannot be recovered. (A fighter can drop a pod on a drone rail at any point, but has no reason to do so voluntarily.) The speed and DFR improve immediately; this does not count as a speed change or acceleration for delay purposes. The pod can be dropped at the point before seeking weapons could be launched, but the EW situation must be rebalanced immediately if the pod was an EW or Jammer type.
(J11.113) Fighter pods can replace type-D plasma torpedoes on the same basis as drones.
(J11.114) If a fighter is crippled, any pods must be dropped (J1.332).
(J11.115) Generally speaking, non-fighter shuttles cannot carry pods. The exception is the MRS, which can carry some pods. This is noted by the term "MRS capable" in the Carriage section of relevant pods. These are carried under the terms of (J11.111) unless the MRS has drone rails, in which case each pod is one space. MRS shuttles can carry pods that they cannot use as inert items. MRS shuttles armed with plasma-Ds can carry pods on the torpedo rails. SWACS (either type) cannot carry fighter pods.
(J11.116) An MRS or fighter used as an SP can carry, but cannot use, pods. (There would be no reason to load them, but if they were already there, there is no requirement to unload them.)
(J11.117) The presence of pods is detected at Tactical Intelligence Level I (D17.4), except that all pods look like drones (or plasma-Ds). Individual pods are identified only by their function. The location (i.e., on a drone rail or on "pod rails") cannot be distinguished.

(J11.12) LOADING: Each pod is loaded by a deck crew as a single deck crew action. Pods can be placed on standard (type-I), special (type-III), or heavy (type-IV) drone rails. They cannot be placed on small (type-VI) rails. See also (J4.2312) for an additional limit on EW pods.
(J11.121) Pods can be removed from the fighter in the shuttle bay without the expenditure of deck crew actions. This does not apply to drones or other items.
(J11.122) Pods are loaded on ready racks and are handled in the same manner as one-space drones.

(J11.13) STOCKPILE: Fighter pods are carried only by "fully capable carriers." Carriers receive these pods for free in all scenarios (including Patrol scenarios) unless otherwise noted.
(J11.131) Fully-capable carriers have (J4.752) two EW pods, one combat pod, one cargo pod, and one auxiliary pod for each fighter. Additional pods can be purchased as Commander's Options (S3.2) unless the pod description prohibits extra purchases.
(J11.132) If a given carrier (or base) has more than one fighter squadron, they can use each other's pods.
(J11.133) Before a scenario begins, a carrier can transfer two of the pods from its stockpile to each of its escorts. [This is not done if the force has been surprised (D18.0).] Also see (R2.R5). Also, an escort or carrier (but not a casual carrier or non-carrier) could buy extra pods as part of the Commander's Options.

(J11.14) POD DATA: Various items of information are provided for each pod type. This is often presented in this format:
(J11.141) CARRIAGE: The number of such pods that a single fighter can carry. The term "unlimited" is of course within the limits of how many total pods that fighter can carry. A fighter could carry extra pods (up to its pod limit and the available stockpile) of a "limited" type as inert non-functional pods. These could not be used, but this might be done to transport those pods to another ship. An MRS can carry pods it is not able to use as inert items.
(J11.142) AVAILABILITY: The number of such pods that can be in the stockpile of a single fighter squadron.
(J11.143) ARMING: The requirements (energy or otherwise) and procedures to rearm the pod, if this is necessary.
(J11.144) COST: The cost of buying an extra pod of the indicated type.
(J11.145) SIZE: Pods are one-space items.

(J11.2) FIGHTER EW PODS

All fighters have a built-in capability for electronic warfare; see (J4.47). To increase this capability, fighters began using electronic warfare pods (EWPs) in Y168. EWPs are often carried on special electronic warfare fighters (EWF); see (R1.F7) and (J4.43). Extra EW pods cost one point each, see Annex #6.

(J11.21) EFFECT: Each EWP can provide two points of either ECM or ECCM, or one of each. This is determined secretly and simultaneously (B2.4) and announced in the Sensor Lock-On Phase at the start of each turn and cannot be changed during the turn. The EWPs on unlaunched fighters must be set and announced at the start of the turn.

(J11.22) LIMIT: No fighter can carry more than two EWPs; exception EWFs (R1.F7) or heavy fighters (J10.0) and bombers (J14.0) can have four (including any built-in). Regardless of how many EWPs are carried, the maximum EW a fighter can use is as per (J4.91).

(J11.23) USE BY EWF: The EW points generated by EWPs on an EWF are used by the EWF in addition to its built-in EW (J4.47). Only those points generated by the EWPs, and not the built-in points, can be lent to other fighters in the squadron under (J4.92) and (J4.93).

(J11.24)-(J11.25) MISSING RULES: These rule numbers were not used by error when *Module J* was published and are left blank because there may be a cross-reference to the three following rules.

(J11.26) NON-FIGHTERS: MRS, SWAC, and other non-fighter shuttles cannot carry EWPs.

(J11.27) ACTIVATION: A fighter can turn off its EWPs during any Lock-On Stage of the Impulse Activity Segment. They can be turned back on during the Lock-On Stage of any impulse after a minimum delay of eight impulses. All EWPs on a given fighter must be turned on and off simultaneously. This is done in the Fighters Make Voluntary Changes Step.

(J11.28) JAMMER POD: This pod is an early version of the EW pod. It produces two points of ECM and cannot produce ECCM or switch back and forth. It otherwise operates as an EW pod.
(J11.281) CARRIAGE: Maximum of two per fighter. Counts against limits of EW pods.
(J11.282) AVAILABILITY: Replaces EW pods in scenarios set in Y165-Y167.
(J11.283) ARMING: None required.
(J11.284) COST = 1 point.
(J11.285) YEAR of availability = Y165.

(J11.3) FIGHTER COMBAT PODS

(J11.31) GENERAL: There are several pods in this category.
(J11.311) These combat pods provide an additional weapon or other combat bonus. These pods cannot be carried by non-fighter shuttles unless a specific exception is given.
(J11.312) Pods which must be activated by energy from the carrier remain activated for 25 turns on a ready rack or a fighter in the bay or indefinitely on a fighter in flight. The deck crew action is required at the time of charging, whether the pod is on the fighter or a ready rack. The carrier can have one such pod charged for each fighter at WS-III, half that many at WS-II, and none at lower statuses.

(J11.32) CHAFF POD: Each chaff pod contains two chaff packs as per (D11.0). The fighter uses them as per (D11.0), dropping a maximum of one pack per pod per impulse per fighter. A fighter can drop its own chaff pack(s) and one chaff pack from each chaff pod it is carrying during each impulse.
(J11.321) CARRIAGE: One per fighter. MRS capable.
(J11.322) AVAILABILITY: Unlimited.
(J11.323) ARMING: The chaff pod can be refilled with chaff packs by a single deck crew action (for both packs). No energy expenditure is required. Replacement chaff packs are drawn from the carrier's (or escort's) storage, which may be limited, and is not increased by the inclusion of pods on its fighters (beyond the packs originally in the pods). The chaff pod can be refilled while on the fighter or while on a ready rack.
(J11.324) COST = 2 points including first filling of packs.
(J11.325) YEAR of availability = Y170.

(J11.33) PHASER POD: This type of pod contains a phaser-3 and a battery able to fire that phaser one time. The firing arc is FA. The phaser is fired like any other phaser carried by that fighter.
(J11.331) CARRIAGE: One per fighter; two on heavy fighters. Armed fighter for purposes of (D12.12).
(J11.332) AVAILABILITY: Unlimited.
(J11.333) ARMING: The pod can fire its phaser only one time. Recharging the pod costs 1/2-energy point and one deck crew action. This can only be done on the carrier (or an escort with a ready rack for that fighter), but can be done while the pod is mounted on the fighter or on a ready rack. This pod can fire at low-power in dogfights under the same rules as any other phaser-3 (J7.52). If used in a dogfight, the pod can fire a total of four times at low power before it is exhausted. After firing once at low power, it cannot be fired at normal power until recharged. After firing four times at low power, it cannot fire at all until it is recharged. Regardless of how many low-powered charges it fires, it still requires the full 1/2 point of energy to recharge.
(J11.334) COST = 1 point.
(J11.335) YEAR of availability = Y172.
(J11.336) An armed phaser pod is treated as explosive ordnance (G25.3). An unarmed phaser pod is not.

(J11.34) GROUND ATTACK POD: This pod increases the ground combat offensive power (D15.87) of the fighter by one point.
(J11.341) CARRIAGE: Maximum of two per fighter. Armed fighter for purposes of (D12.12).
(J11.342) AVAILABILITY: Unlimited.
(J11.343) ARMING: None required.
(J11.344) COST = 1 point.
(J11.345) YEAR of availability = Y168.
(J11.346) A ground attack pod is treated as explosive ordnance (G25.3).

(J11.35) SEEKING WEAPON CONTROL POD: This pod allows a standard fighter to control up to six seeking weapons (twelve with two such pods) and to accept transferred control of seeking weapons from other fighters of the squadron. Note that this replaces, rather than increases, the fighter's inherent drone-control ability. This pod was often used by small carriers that did not have two-seat fighters. A single pod would increase a heavy fighter's seeking weapon control rating to twelve, a second pod would have no additional effect, i.e., it would not increase a heavy fighter's seeking weapon control rating to eighteen, or even to thirteen. The pod would not increase the seeking weapon control rating of an EWF or even a two-seat fighter as they are not "standard fighters".
(J11.351) CARRIAGE: Maximum of two per fighter. While an EW fighter (or two seat fighter) could carry these, it would gain no benefit from doing so. Cannot be operated by a "green" pilot.
(J11.352) AVAILABILITY: Maximum of one per squadron in basic stockpile; maximum of one additional per squadron can be purchased as a commander's option.
(J11.353) ARMING: None required.
(J11.354) COST = 2 points.
(J11.355) YEAR of availability = Y175.

(J11.4) FIGHTER AUXILIARY PODS

(J11.41) CARGO POD: This pod is capable of carrying one space of cargo. While originally designed to carry the luggage of a pilot being sent on a detached mission, it is sometimes used to transport small objects from one ship to another. This pod is limited to "small objects" and cannot carry drones or type-D plasma torpedoes.
(J11.411) CARRIAGE: Unlimited. MRS capable.
(J11.412) AVAILABILITY: Unlimited.
(J11.413) ARMING: None required (or possible)
(J11.414) COST = 1.
(J11.415) YEAR of availability = Y165.

(J11.42) SENSOR POD: This pod contains electronic sensors able to conduct the type of science missions that can be done by an administrative shuttle (J2.212) and can gather tactical intelligence as if it were an EWF. This pod will not increase the capabilities of an EWF or MRS.
(J11.421) CARRIAGE: Maximum of one per fighter. MRS capable. Cannot be operated by a "green" pilot.
(J11.422) AVAILABILITY: Maximum of one per squadron; extras cannot be purchased as commander's options.
(J11.423) ARMING: None required.
(J11.424) COST = 1 point.
(J11.425) YEAR of availability = Y165.

(J12.0) RAIL-LAUNCHED ANTI-DRONES

Anti-drones are, generally speaking, the same size and shape as type-VI dogfight drones. The type-G drone rack takes advantage of this coincidence. Shortly after the General War began, fighter development boards began working out the procedures to fire anti-drones from a fighter's drone launch rails. These first became available in Y171. RAil-Launched Anti-Drones are designated as RALADs (pronounced Rau-Lads). These cannot fit on "pod rails".

(J12.1) OPERATIONS

(J12.11) CARRIAGE: Each RALAD replaces one drone. RALADs are half-space weapons for storage purposes. RALADs can be used as ADD ammunition in ADD launchers, and ADD ammunition can be used as RALADs.

RALADs cannot be used on scatter-packs.

(J12.12) LOADING: RALADs are loaded on the launch rails by deck crews under the same procedure as drones. They are the size of anti-drones (and type-VI drones) and can be carried on rails for type-I or type-VI drones. They cannot be carried on "special" or "heavy" rails.

(J12.13) COST: Replacing a type-I or type-VI drone with a RALAD is done at no cost (and produces no cost savings). There is, however, no drone speed upgrade cost for RALADs, effectively producing a savings in later years. There is no restriction on replacing drones with RALADs. RALADs do not count against the racial % of special drones.

(J12.2) COMBAT

RALADs are fired as ADD (E5.0) rounds, subject to the provisions below.

(J12.21) DF WEAPONS: RALADs are direct-fire weapons. They are not treated in any way as seeking weapons. If they hit their target, they score damage as an ADD round does. For example, the (E5.31) procedure (roll one die, damage equal to die roll) procedure is used when the target is a shuttle.

(J12.22) FIRING ARC: RALADs have an FA firing arc.

(J12.23) FIRING RATE: No fighter (or MRS) can fire more than one RALAD in any given impulse. RALADs count against the fighter's drone-firing rate (J4.24) as a type-VI drone.

(J12.24) PROBABILITY OF A HIT for a RALAD is the same as an anti-drone and uses all ADD rules, including the (E5.15) exemption from EW. See (E5.62) if the fighter is using Erratic Maneuvers.

(J12.3) USE DURING DOGFIGHTS

(J12.31) FIRING: RALADs are direct-fire FA weapons.

(J12.32) HIT: RALADs fired during a dogfight hit on a die roll of one-to-three. There is no adjustment to this die roll (J7.661).

(J13.0) CASUAL BASES *(Optional)*

It is, theoretically, possible to rearm fighters more or less anywhere, so long as there is a flat spot to land, weapons to pick up, and deck crews to load them.

Note that energy-based weapons (fusions, hellbores, photons, disruptors, plasma-Fs) cannot be reloaded by these means. The only way such a fighter could be armed is if it arrived in that condition. Note that plasma-D armed fighters can be armed at such bases.

PFs cannot use this type of base.

(J13.1) CREATING A CASUAL BASE

(J13.11) LOCATIONS: A casual base can be created on any planet or moon (P2.0) that shuttles can land on or on a large (P3.4) asteroid. It could, in theory, be set up in the shuttle bay of any ship or base.

(J13.12) PROCEDURE: The area is treated as a ground combat location (D15.1), but otherwise is not a "unit" in any sense of the term. *Module M* may provide more advanced rules. Casual Bases have Control Stations; these represent "key terrain" surrounding or within the location selected for the base. However, by its very nature, there will not be any Ground Defensive Systems at a casual ground base. These are constructs which take time to place, and the entire concept of a Casual Base is that it will exist for only a short period of time and then be abandoned.

(J13.121) Shuttles land there by their own rules.

(J13.122) Deck crews can be transported there by normal means (shuttle, transporter, etc.).

(J13.123) Weapons (drones, chaff packs, fighter pods, etc.) can be transported there by various rules in (G25.0).

(J13.124) Given the length of most scenarios, fuel need not be accounted for, but fighters could not launch on a long (i.e., to another scenario) mission from a casual base without special campaign or scenario rules.

(J13.2) OPERATING A CASUAL BASE

(J13.21) SHUTTLE FACILITIES: For purposes of these rules, a casual base has 30 "casual shuttle boxes" (which are, basically, empty flat spots on the terrain. (Scenarios might specify a larger or smaller number.) Some might be used to hold cargo and might never have a shuttle land in them. They are, primarily, a record-keeping function.

(J13.211) For purposes of the deck crews, these operate as normal shuttle boxes (J4.813), except that there is no ready rack. All deck crews and supplies at the casual base must be assigned to one of these "casual boxes". (Maximum of 50 cargo points per casual box.) Deck crews can change boxes at the end of every turn. Deck crew actions are required to move supplies between casual boxes. The contents of each box are observable at Tactical Intelligence Level I.

(J13.212) These boxes cannot be destroyed, although the contents of a box without a shuttle (including cargo, deck crews) would be destroyed by a single damage point (each is a separate target selected by the attacker). If present, the shuttles can be attacked using normal rules. If a shuttle is destroyed while on the ground, anything in its casual box is destroyed with it, although the box itself is not destroyed. Shuttles are destroyed by the normal rules for firing on a shuttle on the surface, not as the contents of a box. No chain reaction is possible as the boxes are well spread out and not enclosed. Rule (R1.14C2) applies to small ground bases.

(J13.213) There is no "launch rate" since there are no "bay doors." Shuttles can launch from and land in any box at the same time (in the same impulse). The restrictions of (J1.34) will apply.

(J13.22) READY RACKS are not available and cannot be created (there's a partial exception in the case of plasma-Ds), so all reloading uses (J4.8962), the infamous Kzinti Weight Lifting Team rule.

(J13.221) For all practical purposes, only drones, chaff packs, and pods can be loaded at such a base. Plasma-Ds could be loaded, unloaded, transferred, and activated. Remember that activated plasma-Ds not on launch rails remain active for only 25 turns. Also, removing a plasma-D from a launch rail causes it to lose its charge (FP10.33). It is assumed that a small generator sufficient to provide the power to arm plasma-Ds and phaser-pods can be brought to the base on a shuttle, but such a generator would only be able to charge one phaser-pod or activate one plasma-D per turn. It can be assumed that charging one plasma-D or phaser-pod per turn has been done up to twenty turns before the fighters landed in a scenario where a base is to be used for a resupply to provide an on-hand stockpile.

(J13.222) Deck crews can perform repairs, but must have one point of cargo transported to the base for each shuttle repaired. This cargo must come from a carrier, but does not show up on the carrier's records.

(J14.0) BOMBERS

Bombers were very large shuttlecraft configured as weapon platforms. They were used exclusively for planetary defense as only planets had the huge space required by these craft. No ships or orbital bases could operate them, nor was any empire able to modify a ship to operate them.

See (JC0.0) in *Module C3A* for conjectural Andromedan bombers.

(J14.1) BOMBER TYPES

There are two basic types of bombers, differentiated by size. Each empire that uses fighters has one or more bombers listed on its master fighter chart.

(J14.11) MEDIUM BOMBERS are triple-sized shuttles (50% larger than heavy fighters are). They are damaged in their hangars in a manner similar to heavy fighters (J10.13), except that each hangar box destroyed only destroys 33% of the bomber.

(J14.12) HEAVY BOMBERS, which first appeared later in the General War, are quadruple-size shuttles. They are damaged in their hangars in a manner similar to heavy fighters (J10.13), except that each hangar box destroyed only destroys 25% of the bomber.

(J14.13) YACHTS: These are non-combat units used for transportation of important people and cargoes over limited distances, and are often the playthings of the incredibly rich. They have minimal armament (one phaser-3), various amenities, and limited range. Going from Earth to Mars in such a shuttle would be an amusing voyage; going from Earth to Vulcan in one would become cramped and uncomfortable and would stretch the abilities of the system. The various types are fully described in the (R1.0) section, but it should be noted that they include cargo transports, luxury yachts, and "buses" (for moving large numbers of uncomplaining people) in both triple-size and quadruple-size units.

(J14.2) BOMBER OPERATIONS

(J14.21) GENERAL: Bombers operate as shuttles (J1.0), fighters (J4.0), and heavy fighters (J10.0) except where noted. They are simply much larger, with more weapons and more resistance to damage. Most medium bombers have a crew of four and most heavy bombers have a crew of six.

(J14.22) LIMITATIONS: Bombers can only operate from ground bases. They can never operate from ships. They can never land inside a shuttle bay, but can dock externally to any unit's docking stations under (C13.98) or internally at a starbase or FRD, for purposes of transferring crew or cargo. They cannot be armed, rearmed, refueled, or repaired by such units. They can never be connected to a mech-link. They cannot be used as wild weasels or suicide shuttles.

(J14.221) Bombers can be differentiated from other shuttle types at Tactical Intelligence Level C (D17.4), i.e., are identified as the very large shuttles they are. They are otherwise treated as fighters, e.g., the specific type of bomber is not known until Tactical Intelligence Level H.

(J14.222) Bombers can only be rearmed at ground bases built to support their operations. They cannot be rearmed, even by (J4.8962), except at their home base (or another base operating the same bombers). Casual bases (J13.0) cannot rearm bombers in any way. Casual bases can repair damaged bombers. Casual bases can also refuel heavy bombers and replace expended chaff packs.

(J14.223) Because of their large frames bombers were relatively unmaneuverable. Bombers cannot HET, but their heavy frames make them immune to death dragging (G7.54) unless they have been crippled (J14.32) (this also applies to sublight bombers used by the Romulans). Crippled bombers are death dragged normally. Bombers cannot perform Close Combat Maneuvers (J4.5).

(J14.224) Bombers have the small target modifier of heavy fighters (E1.7).

(J14.225) Warp packs for bombers were larger and burned out faster in use. This is reflected in game terms by an increase in the cost to fit a bomber with warp packs. In scenarios where bombers are equipped with warp packs, a surcharge of two points must be paid for each medium bomber able to use warp packs. Heavy bombers pay a surcharge of three points. Any bomber for which a this surcharge is not paid cannot use warp packs. Bombers that appear in historical scenarios after warp packs become available have already paid this surcharge unless the scenario instructions say otherwise.

(J14.226) The large size of bombers meant that they could not fit inside the warp field of a ship, and lacking shields of their own (unlike interceptors or PFs) would be destroyed if held on a mech-link by a ship going faster than Speed 32. Normal shuttles are small enough to fit inside a ship's warp field, making shuttle mech-links possible.

(J14.23) ABILITIES: Bombers can use booster packs (J5.0) and remote-controls (J15.0). They can also use megafighter systems (J16.0). They can be configured as scatterpacks as other fighters can be (FD7.44).

(J14.231) All bombers, whether heavy or medium, have provisions to carry up to four fighter pods under (J11.111), except that one or two pods carried only reduces the bomber's speed by one point, three or four pods carried reduces the bomber's speed by two points.

(J14.232) All heavy bombers have two built-in EW pods that do not count against their pod rails or their movement. All medium bombers have one built-in EW pod that does not count against their pod rails or their movement.

(J14.233) Bombers use the same rules as heavy fighters (J10.4) for launching seeking weapons or firing direct-fire weapons, except that bombers can launch a maximum of three seeking weapons during any single turn.

(J14.234) Medium bombers normally have three deck crews associated with them, and can be worked on by a maximum of six deck crews. Heavy bombers normally have four deck crews associated with them, and can be worked on by a maximum of eight deck crews.

(J14.235) Bombers did not have chaff prior to Y168, but all bombers still in service had chaff installed from that date. There is no change in the BPV of a bomber for having chaff packs installed, but no bomber can use chaff prior to Y168.

(J14.24) ORION PIRATES: Due to the nature of Orion Cartel Operations, Orion Pirates almost never employed bombers. The expense of carrying them to a temporary base on a planet's surface only to be forced to abandon them if a hasty evacuation was required made them economically unfeasible. However, a few bombers were employed on some hidden shipyards on isolated planets or asteroids.

(J14.3) DAMAGING BOMBERS

As with normal shuttles and fighters, bombers have their effectiveness reduced by damage short of outright destruction. However, due to their larger and more robust frames, bombers are damaged in a manner similar to, but somewhat different from non-bomber shuttles.

(J14.31) DEGRADED: Bombers are considered "degraded" when the number of damage points scored on them equals or exceeds 1/2 of their destruction point. (Round fractions to the next larger whole number when calculating the number of points required for degrading; a bomber destroyed by 25 damage points is degraded by thirteen.) The following penalties take effect immediately after the step in which the damage was received.

(J14.311) SPEED: When a bomber is degraded, its maximum speed is reduced to 2/3 of its rated maximum (round fractions up; a bomber with a speed of fifteen can move ten when degraded).

(J14.3111) The current speed, if more than the new degraded maximum, is immediately reduced to that degraded maximum [exception: crippling (J14.321)]. This is considered a speed change under (C12.34), and while it may occur at less than the required interval from the previous change, the next change must wait the required interval from the point of a speed change required by degradation.

(J14.3112) A degraded bomber still cannot be destroyed by tractor beam when towed at a speed exceeding its original maximum speed; see (J1.212) and (J1.331).

(J14.312) WEAPONS: Half, rounded down, of all non-phaser weapons by type (drones, photons, phaser-pods, plasma-Fs, plasma-

Ds, hellbores, fusions, disruptors, including any other weapons added to the game later) on the bomber become non functional.

(J14.3121) The owner of the bomber can select drone/plasma rails that have already launched their drones/plasmas, disruptors or fusions or photons which have already fired, and other weapons that will be disabled to meet the requirement. Fractions are rounded down, thus if a bomber has three disruptors (not disruptor charges), only one is disabled, not two. Built-in EW pods and the standard chaff carried on a bomber (D11.0) are unaffected.

(J14.3122) Phasers are unaffected by degraded status.

(J14.3123) The degraded bomber does not have to discharge any charged weapons, or drop any pods. The bomber does not have to drop any weapons carried in internal bays, including T-bombs. Note that this simply means that these weapons do not have to be recharged if the bomber is repaired.

(J14.3124) Weapons in the weapons bays of Federation bombers (including those converted to Gorn technology) are affected in the same way, i.e., half the bay positions become non-functional.

(J14.313) SENSORS: The sensor rating of a degraded bomber is not reduced (D6.133). A degraded bomber can control seeking weapons (assuming it could before it was degraded). A degraded bomber can receive EW lending, and can loan EW points. A degraded bomber can perform EM. The scanner factor of bombers (D6.22) is not reduced when they are degraded.

(J14.314) REMOTE-CONTROL (J15.0) does not effect the number of points of damage needed to "degrade" a bomber.

(J14.32) CRIPPLING: Bombers are considered "crippled" when the number of damage points scored on them equals or exceeds 2/3 of their destruction point. (Round fractions to the next larger whole number when calculating the number of points required for crippling; a bomber destroyed by 32 damage points is crippled by 22.) The following penalties take effect immediately after the step in which the crippling damage was received.

(J14.321) SPEED: When a bomber is crippled, its maximum speed is reduced to 1/2 of its rated maximum (round fractions up; a shuttle with a speed of fifteen can move eight when crippled).

(J14.3211) The current speed, if more than the new crippled maximum, is immediately reduced to that crippled maximum. This is considered a speed change under (C12.34), and while it may occur at less than the required interval from the previous change [perhaps one caused by "degradation" (J14.3111) above], the next voluntary change must wait the required interval from the point of a speed change required by crippling.

(J14.3212) A crippled bomber can be destroyed by tractor beam when towed at a speed exceeding its original maximum speed; see (J1.212).

(J14.322) WEAPONS: All weapons carried externally on a crippled bomber (drones, type-D torpedoes, EW pods, other external weapons added later) must be dropped. All internal weapons (including EW pods) except phasers cease to operate. The standard chaff carried on a bomber (D11.0) is unaffected.

(J14.3221) All phasers (including ph-Gs) on crippled bombers are reduced to phaser-3s. No more than one phaser can fire into each arc. If two phasers have the same arc (e.g., most bombers have two FX weapons), one ceases to function. If the arcs overlap completely, the one with the smaller arc ceases to function. If the bomber has phasers with LS/RS arcs (sometimes labeled BS for both sides), these remain and any others cease to function. If the bomber has FX and RX phasers, both remain but the RX is reduced to RA. If a gatling phaser has fired three or fewer times during earlier portions of the turn (before it was reduced by crippling), the resulting phaser-3 can fire later during that same turn. The firing arcs of phasers remain unchanged except as specified herein.

(J14.3222) EW systems (including EW pods) cease to function if the bomber is crippled. Built-in EW points (but not built-in EW pods) continue to operate.

(J14.3223) Any armed non-phaser energy-using weapons are discharged (E1.24).

(J14.3224) Any non-photon weapons, such as phaser pods, drones or T-bombs, carried in internal bays on Federation bombers, including any non-plasma-Fs on Federation bombers converted to Gorn technology (e.g., phaser pods, T-bombs, plasma-Ds, plasma-Ks), become unusable, but are not lost. Any energy to charge such weapons (phaser-pods, plasma-Ds, plasma-Ks) is lost under (J14.3223), and any photon torpedoes or plasma-F torpedoes are discharged. Note: cargo stored in such an internal bay (R2.F11) is not lost unless the bomber is destroyed.

(J14.323) SENSORS: The sensor rating of a crippled bomber is not reduced (D6.133). A crippled bomber can control seeking weapons (assuming it could before it was crippled). A crippled bomber can receive EW lending, but cannot loan EW points. A crippled bomber cannot perform EM. The scanner factor of bombers (D6.22) is not reduced when they are crippled.

(J14.324) REMOTE-CONTROLLED bombers use the same rules as remote-controlled fighters (J15.342) to determine the number of points of damage necessary to cripple them.

(J14.33) REPAIR: The effects of crippling (J14.32) or degradation (J14.31) are removed when the bomber is repaired to a point exceeding the crippled or degraded level. It is possible to repair a crippled bomber to only degraded status and arm the weapons available to it in that status. This can be done by deck crews or repair systems, but only at a base [note that bombers cannot be re-armed at bases other than bomber bases (J14.222)], or at a casual base (J13.0) if special scenario rules so allow. Exception: legendary engineer (G22.45).

(J15.0) REMOTE-CONTROLLED FIGHTERS

All empires that used fighters employed remote-controlled fighters in order to reduce the number of pilot casualties. Pilots were expensive to train, and casualties among their ranks were high. While details are unclear, some estimates indicate that half of the combat missions flown by fighters during the entire General War were flown by remotely-controlled fighters. This technology was an outgrowth of the technology that controlled minesweeping shuttles.

Remotely-controlled fighters were often used for planetary defenses where their limited range was not an issue. There were also budget advantages in that National Guard pilots could conduct cheap simulator training while not working at their civilian jobs, and could "report for duty" from any computer terminal in the colony.

(J15.1) DEPLOYMENT

(J15.11) USE: All empires which use fighters can use remotely-controlled fighters. All fighter and shuttle types can be modified to use remote-controls.

(J15.12) CONVERSION: Converting a manned fighter to a remotely-controlled fighter (or vice-versa) can be done on board a ship or base, but cannot be done during a scenario. A player designates at the start of each scenario how many, if any, of its fighters and/or shuttles have had remote-control packages installed. A carrier will have one remote-control system stored for each fighter, including its spare fighters. There is no cost for these systems or their use. A remote-controlled fighter cannot carry a passenger.

(J15.13) PILOT QUALITY: Normal pilot quality rules apply; experience is what counts. A pilot cannot add his remote and non-remote pilot points but keeps them separately.

(J15.2) LIMITATIONS

(J15.21) RANGE: Remotely-controlled fighters can only be controlled within 35 hexes of their carrier. If they move beyond that range, they become uncontrolled; see (J15.32).

(J15.22) CONTROL: Only the carrier that launched a fighter can control it remotely unless special control systems are fitted to another ship (J15.33). This control system, an outgrowth of the one used for minesweeping shuttles, was not compatible with wild weasels, scatter packs, or suicide shuttles.

(J15.221) Remotely-controlled fighters are controlled through the seeking weapon control channels of the carrier, with three fighters controlled (independently) by each channel.

(J15.222) A carrier must have active fire control (D6.6) to control fighters. If control is lost, see (J15.32). This would include fire control being disrupted by displacement or deactivated for a wild weasel launch, or the loss of line of sight from the controlling unit to the fighter. Low power fire control (D6.7) is not considered active fire control for this purpose.
(J15.223) Control over a fighter can be disrupted by special sensors using the "breaking lock-ons" procedure (G24.22). If control is disrupted, the disruption lasts for eight impulses, during which the fighter is uncontrolled (J15.32).
(J15.224) Note that some carriers will not have enough control channels to control all of their fighters. An example is the Tholian CVA, which can only control a number of seeking weapons equal to half its sensor rating (F3.211), and as such could only use this system to operate nine of its 24 fighters during any given impulse. Its escorts (CWA and PCA) could provide control for some fighters (J15.332), and up to three fighters each if special control channels are purchased (J15.334), but the entire group could not by itself control more than fifteen fighters at one time.
(J15.225) Note that planets have numerous small repeater systems deployed around them enabling a base on one side of a planet to control fighters on the opposite side of the planet (or the other side of a small moon in close orbit). These repeater systems are frequently augmented with systems on DefSats, enabling the distance for "control" of a given fighter to be counted from an orbiting DefSat (R1.15) rather than the hex (or hexes) the planet occupies. No more than three fighters can be operated through the repeater network of any one DefSat for this purpose.
(J15.226) The fighter's own fire control functions normally for all purposes. The fighter can operate on passive fire control without affecting the control link, but this would impose the passive fire control restrictions on its own weapons. A controlling ship can order a fighter to change its fire control from active to passive and vice versa. A remote-controlled fighter cannot fire weapons inside an enemy bay.
(J15.227) If a ship becomes "uncontrolled" (G2.2) it loses all ability to control remotely-controlled fighters until a control box is repaired. Undermanned ships (G9.4) cannot control remotely-controlled fighters or shuttles.
(J15.228) Ships with poor crews (G21.21) suffer no additional effects to those listed in (G21.133), (G21.142), and (G21.143). Ships with outstanding crews only benefit from (G21.142) and (G21.143). Super-intelligent computers and legendary officers provide no modifications to these rules.

(J15.23) CLOSE MANEUVERS: The dogfight rating of a remotely-controlled fighter is reduced to zero, if it was already zero or less, reduce it by one. (Historically, pilots of manned fighters regarded remotely-controlled fighters as easy kills and held them in open contempt.) Remotely-controlled fighters cannot use close combat maneuvers (J4.5).

(J15.24) OTHER MISSIONS: Remote control systems could be installed on an administrative or other type of shuttle. Remotely-controlled shuttles cannot be used as wild weasels, scatterpacks, suicide shuttles, or be used to transport personnel. They can be used to transport cargo. Remotely-controlled shuttles cannot function as labs under (J2.212). Shuttles with remote control systems operate within their own limits under all the rules for remotely-controlled fighters, e.g., if uncontrolled for any reason they will attempt to return to their carrier (J15.32).

(J15.3) OPERATIONS

(J15.31) GENERAL: Remotely-controlled fighters operate exactly as manned fighters except where noted in (J15.0). They can, for example, use Erratic Maneuvers normally without any loss of control.

(J15.32) UNCONTROLLED FIGHTERS: If control over a fighter is lost or disrupted for any reason, all of the fighter's weapons are disrupted, as is its ability to control seeking weapons. [Control over seeking weapons can be transferred or released under the appropriate rules (F3.5.)]
(J15.321) An uncontrolled fighter will turn toward the carrier [or other ship (J15.33)] that was controlling it (or the last known hex if the carrier/ship was destroyed, placed in stasis, or displaced out of range) and approach it as a seeking weapon. It will not "hit" or damage the carrier/ship, but will attempt to enter and remain in the same hex, i.e., it will drop to Speed Zero if it enters the hex of its destroyed controlling unit. Note that the fighter is moving "as a seeking weapon," which means the owning player will choose which of two available hexes it will enter, and can decide whether or not the fighter will HET (if a HET is still available to it) in order to conform to the movement restrictions of a seeking weapon. The fighter is not required to HET in order to face its carrier.
(J15.322) The carrier (or other ships as allowed) can resume control once the condition that caused control to be lost is removed. If the controlling unit was destroyed, another qualified controlling ship (J15.33) could assume control of the fighter.
(J15.323) An uncontrolled fighter will take no action to defend itself, including but not limited to dropping chaff or executing a High Energy Turn to break a tractor link to avoid death-dragging (G7.55).

(J15.33) OTHER CONTROL SHIPS: Ships other than the carrier that launched the fighter can control remotely-controlled fighters as follows:
(J15.331) Scouts can use special sensors to control fighters. Each sensor can control up to three fighters. The sensor must be powered with one point of energy from any source. PF Scouts can use their sensors to control fighters launched by their carrier, but few carriers are authorized a PFS.
(J15.332) Each escort of a given carrier can only use one of its seeking weapon control channels to control fighters. This normally allows control of only one fighter but see (J15.334).
(J15.333) Two carriers of the same empire in the same battle force could control each other's fighters if both have purchased enhanced control systems for a cost of five commander's option points per carrier. If only one purchased the enhanced control systems, it could assume control of the second carrier's fighters, but the second carrier could not assume control of the first carrier's fighters, or even re-assume control of its own.
(J15.334) Non-carrier/non-scout ships can purchase the equipment to control fighters. Each fighter requires one seeking weapon control channel and one control module (costing three points per module). Casual carriers are not carriers and have to buy the equipment.
(J15.335) No shuttle, not even a SWACS, can use this system to control a fighter, as there is not sufficient space aboard for the pilots and their control systems to operate the fighters.

(J15.34) ADVANTAGES
(J15.341) Remotely-controlled fighters can launch any or all of their seeking weapons on the same impulse, ignoring the launch rate limits of the fighter type. This is not considered a "scatterpack" and is not under any of those limitations. The fighter is still under the (J1.341) post launch limit on when it can begin launching seeking weapons.
(J15.342) Remotely-controlled fighters and shuttles are crippled by taking one more point of damage beyond the 67% given in (J1.33), e.g., a remotely-controlled F-18 is crippled by eight points of damage rather than seven, as there is no need to maintain the stability of the pilot's cockpit.

(J15.35) PROHIBITIONS:
(J15.351) Fighters on "Combat Space Patrol" at WS-II or WS-III, must always be manned fighters. This represents the fact that these fighters might be sent to "check out something" that is much more than 35 hexes from their carrier.
(J15.352) Remotely-controlled fighters and shuttles cannot "crash aboard" (J1.612) enemy units moving at any speed faster than zero by any means, including for this purpose rotation (C3.7), Tactical Maneuvers (C5.0), Erratic Maneuvers (C10.0), and/or orbit (P8.0), but not zero energy turns (C5.13). The control needed to land aboard a maneuvering ship is so precise that the small lag in correction time through the control link that makes remotely-controlled fighters bad dogfighters (J15.23) results in a crash, destroying the fighter/shuttle but not otherwise damaging the larger unit. Remotely-controlled fighters and shuttles can be landed aboard enemy ships normally if the enemy ship is "cooperating" with the landing, i.e., is allowing the fighter or shuttle to land for some reason including tractoring it aboard in an effort to capture it. This includes, but is not limited to, an enemy ship in which friendly boarding parties have captured all the control boxes.
(J15.353) Remotely-controlled fighters cannot land aboard enemy ships moving at Speed Zero that are cloaked. Fighters and shuttles friendly to the cloaked ship can "land aboard" by following the beacon

(G13.41) normally, i.e., the ship does not have to be moving at Speed Zero, but would be unable to launch again until the ship uncloaked.

(J15.36) TRANSFERS OF CONTROL: A remotely-controlled fighter operates with the quality of its pilot (J6.0) except as provided in (J15.23).

(J15.361) If a player wishes to transfer control of a fighter controlled by one pilot to another, the fighter(s) being transferred can take no action for eight impulses except continue moving at the current speed in a straight line, they cannot even "drop chaff" in response to seeking weapons. The transfer period begins and ends in the Seeking Weapons Control Step of the Seeking Weapons Stage (6B6). The change of control must be recorded during when the change is implemented. If the change is interrupted for any reason, the fighter's period of inaction is extended from that point. The delay applies even if the pilot taking control of the fighter is an ace or legendary ace.

EXAMPLE: A player has an ace pilot. The fighter being controlled by the ace pilot has been crippled, i.e., has only one damage point remaining. The player decides to have the ace pilot take control of another undamaged fighter controlled by a green pilot while having the green pilot take control of the crippled fighter. He records the intention to change the controlling pilots. Four impulses later, weapons fire cripples the fighter the ace was going to take over. Player A decides, on the following impulse, to have the ace take over a third fighter instead, and the newly crippled fighter begins the eight impulse period of taking no action once again.

(J15.362) The procedures of (J15.361) are also used when a fighter controlled by one ship is transferred to the control of another ship.

(J15.363) The transfer of control can run concurrently with a fighter's uncontrolled status (J15.32), e.g., a fighter that becomes uncontrolled due to the destruction of its controlling ship could, while moving towards the wreckage of that ship, have control exerted over it by another ship equipped to do so.

(J15.364) A seeking weapon identification (F1.4) performed on a fighter will reveal if the fighter is manned or remotely-controlled, and if remotely-controlled what unit is controlling it.

(J16.0) MEGAFIGHTERS

Developed at about the same time as Interceptors, Megafighters were an attempt to keep pace with the advance in combat lethality. The general idea was to create a huge "belly pack" (approximating the size and mass of the fighter itself) into or onto which a standard fighter would be fitted. This provided the fighter with considerably more capabilities, increasing speed, firepower, and defense. For a time, megafighters and interceptors competed to be the dominant type of attrition unit, but the arrival of PFs meant that megafighters were no longer the optimal solution.

Even before the development of PFs, the deployment of megafighters was limited due to the tremendous cost of the system compared to warp packs.

(J16.1) AVAILABILITY

(J16.11) DEPLOYMENT: Any empire that has interceptor technology can deploy megafighters. (Exceptions: the Federation deployed megafighter technology independently of developing interceptors in Y179; the Lyrans received megafighter technology from the Klingons in Y177.) Megafighter systems are not available for MRS, SWAC, admin, MSS, MLS, HTS, HAS, GBS, GAS, or any other non-fighter shuttles as the volume (boxiness of their functional design) of those shuttles (considerably larger than fighters) does not allow space for the megafighter platform to be installed under them. Bombers and heavy fighters can use mega-packs.

(J16.111) It is possible for some of the fighters of a given squadron to include some megafighters and some not so fitted. Such squadrons are legal, although they may suffer some operational difficulties in working together. Note that a fighter ready rack for a mega-F-18 can reload an F-18, but that a ready rack for an F-18 will not have the extra drones for a mega-F-18 found in (J16.241). These drone rails could be loaded under (J4.8962). Purchasing a mega-pack also upgrades the corresponding ready rack.

(J16.112) Fighters that are equipped as megafighters must be recorded in writing. The counter number with the identification of the fighter type and the letter "M" added to the end of the fighter's designation, e.g., F-18CM, Z-YCM, or Spider-IIM.

(J16.113) No fighter was ever purposely constructed to include a megafighter pack in its design.

(J16.12) COST: Adding a megafighter system to a fighter costs 50% of the fighter's BPV, i.e., an F-15DM would cost 21 BPV before adding the cost of drone upgrades. This is usually paid from "force points" but could be purchased under Commander's Options.

(J16.13) SIZE: Megafighters are the same "size" as the standard version of the same fighter. A carrier with twelve F18s could carry twelve mega-F18s. Megafighters can use standard launch tubes. The fact that a given fighter is a mega-version is can be determined at Tactical Intelligence Level H, i.e., at the same point where fighter types are identified.

(J16.2) OPERATIONS

(J16.21) SPEED: The addition of a megafighter system to a fighter or bomber doubles its speed without the penalties of booster packs (J5.31). Megafighters cannot use warp booster packs. This doubling of speed does not change the speed at which the fighter will be subject to death dragging (G7.55), i.e., a Klingon mega-Z-1 would be able to move Speed 12, but would still be death-dragged at Speed 13.

(J16.22) CLOSE MANEUVERS: The dogfight rating of a megafighter is reduced by two points, but not less than zero. If a megafighter is operated under remote-control, (J15.23) takes precedence and there is no further penalty imposed by (J16.22). Megafighters use their base speed when calculating advantage in a dogfight (J7.63), but can dogfight with both warp pack and non-warp packed shuttles. Megafighters cannot use close combat maneuvers (J4.5).

(J16.23) DAMAGE: The addition of a megafighter system adds two points to the damage points required to destroy a given fighter. A megafighter is crippled in the same way as a non-megafighter (J1.33), e.g., a Kzinti HAAS fighter (eleven damage points) is crippled if it takes eight points of damage, as a megafighter it takes thirteen damage points to destroy and nine damage points to cripple (i.e., two thirds of thirteen rounded up). To track damage to a megafighter, use a single slash across an SSD box to indicate one point of damage, a second slash (creating an "X") across the first two boxes indicates a second hit.

(J16.24) WEAPONS: The addition of a megafighter system increases a fighter's weapons as follows.

(J16.241) In the case of fighters armed only with drones and phasers (or only with drones), add rails for two standard type-I drones, but this does not increase the rate at which the fighter can launch seeking weapons or the number of seeking weapons it can control.

(J16.242) In the case of a fighter armed with a photon, disruptor, fusion beam, hellbore, or other such heavy weapon as its primary armament, add one additional weapons charge (for each such weapon), e.g., A-10s may not "pick" a drone-mega-pack as there isn't one for the A-10. Note that a given weapon still cannot fire within a quarter-turn of being fired on a previous turn. Even if such a fighter also has drones, do not add the drone rails in (J16.241). Note that a charge is added to the fighter's primary non-phaser direct-fire weapon. In the case of a fighter (or heavy fighter) armed with both fusion beams and hellbores, an extra charge is added to each hellbore, no additional charges are added to the fusion beams. In the case of a fighter armed with fusion beams, but no other non-phaser direct-fire heavy weapon, each fusion beam gains an additional charge.

(J16.243) In the case of a fighter armed with plasma-F, D, or K [excluding electronic warfare fighters (J16.245)], add two plasma-Ds.

(J16.244) In the case of a fighter armed only with phasers (whether a phaser-2, phaser-3, or phaser-G), add a single phaser-3-FA. Note, even Hydran Stinger-Fs receive a phaser-3, not a second phaser-G.

(J16.245) If the megafighter is an EWF, the megafighter system adds two additional rails that can be used to carry EW or other pods, including phaser pods, but not drones, plasma-Ds, plasma-Ks, or any other weapon. Anything carried on these two rails does not slow the EWF megafighter under (J11.111).

(J16.246) The additional rails do not increase the fighter drone storage of the carrier (Annex #7G), but are counted for purposes of determining available special drones under (FD2.45).
(J16.247) Megafighter systems do not increase the number of pod rails given in (J11.111).
(J16.248) If a megafighter system is installed on a Stinger-X it only increases the Stinger-X's speed to 30, not 40, in addition to providing the other benefits and disadvantages listed.
(J16.249) Megafighter systems do not add any weapons or pods to bombers, they only increase speed and add two damage points.

(J17.0) ADVANCED SHUTTLES

This product includes advanced versions of the standard administrative shuttle (R1.F17), GAS shuttle (R1.F18), HTS shuttle (R1.F19), minesweeping shuttle (R1.F20), MRS (R1.F21), and SWAC (R2.F19). Romulan cloaked decoys (G27.0) were also improved. To track damage to an advanced shuttle, use a single slash to indicate one point of damage and (as necessary) a second slash (creating an "X") indicates a second hit.

As is seen in the Empire sections and on the Master Fighter & Shuttle Chart, new faster versions of heavy fighters appeared about the time each empire developed interceptors and competed with interceptors and megafighters for the attrition unit mission. There are also many other new fighters.

The following summary of the Master Fighter Chart shows the new advanced units. All are available in Y180, have a dogfight rating of zero, and have two chaff packs. Only the MRS carries drones (or similar weapons).

Type	Spd	Phaser	Dmg	Special	BPV
A-Admin	8	1xP3-360°	8	J2.1	3
A-GAS	8	1xP3-360°	10	Ground Attack	5
A-GBS	8	1xP3-360°	10	Ground Attack	5
A-HTS	8	—	14	Troop Transport	7
A-HAS	8	—	16	Troop Transport	10
A-MSS	8	1xP3-360°	8	M8.3	4
A-MLS	8	1xP3-360°	8	M9.18	4
A-MRS	10	See Ref	10	J8.0	11
A-Decoy	10	—	12	G27.0	G27.15
A-Decoy(H)	10	—	14	G27.13	G27.15

(J18.0) SHUTTLES TOWING SHUTTLES

Under certain conditions, a shuttle can tow another shuttle.

(J18.1) TRACTOR REQUIRED

The towing (not the towed) shuttle must be manned and have a working tractor beam. Examples of such shuttles include the salvage, recovery, minesweeping, MRS, and prospecting shuttles. Fighters can be towed but cannot tow other shuttles. Suicide shuttles, scatter-packs, and wild weasels cannot tow other shuttles.

(J18.11) OTHER TRACTORS: If either shuttle is tractored by a ship (including a mech-link), the tractor between the two shuttles breaks.

(J18.12) TOWED LANDINGS: A shuttle could be towed out of and into a shuttle bay, but not inside a shuttle bay (although deck crews can move it as always). It could not be towed out of a launch tube as there is not room for both shuttles to be in one launch tube. While a shuttle could tow an armed WW, suicide shuttle, or scatter pack out of a shuttle bay, a WW or SS would go inert and an SP could not become active unless brought back into a shuttle bay and launched normally. If the towing shuttle lands (in a shuttle bay, planetary surface, open base, etc.) the towed shuttle also lands (in an adjacent shuttle box, or use overcrowding).

(J18.13) OTHER TOWED OBJECTS: A shuttle capable of towing a shuttle could tow some other objects of equivalent size, perhaps wreckage defined in a scenario. It could tow an inactive web anchor, but could not tow a defense satellite, mine, or captor mine. (In theory, a recovery shuttle could tow a disabled starship, but it might take entire days to tow it a single hex and this can be ignored for purposes of *SFB.)*

(J18.2) CLOSE PROXIMITY

The two shuttles must be and remain in the same hex and have the same facing.

(J18.21) TURNS: If the towing shuttle turns or Tactical Maneuvers, the towed shuttle will turn with it.

(J18.22) MANEUVERS: Neither shuttle can perform EM or an HET, nor can either challenge another shuttle to a dogfight. The towed shuttle cannot be challenged; if challenged, the towing shuttle would have to release the tractor link when entering a dogfight.

(J18.23) LEADING: The towing shuttle is considered to be "leading" the towed shuttle through terrain (P3.23).

(J18.3) LIMITATIONS

(J18.31) NUMBER: No shuttle can tow more than one shuttle unless specifically allowed to do so in its own rule.

(J18.32) CHAINS: No shuttle being towed can tow another shuttle.

(J18.33) FIGHTERS can be towed by this method, although there are no fighters which have their own tractors for doing such a recovery.

(J18.4) CONDITIONS

(J18.41) LIMITATIONS: The towed shuttle must voluntarily accept the towing and shut down its own engines. An unmanned shuttle cannot do this unless it has already stopped (e.g., a scatter-pack set for Speed Zero). Any other shuttles must be boarded first.

(J18.42) WEASELS: Unvoided Wild Weasels cannot be towed.

(J18.43) ABILITIES: The towing shuttle can use all of its abilities except those involving its tractor beam (which is occupied).

(J18.5) SPEED

(J18.51) CALCULATING SPEED: The combined pair of shuttles moves at a speed at least two movement points less than the current maximum speed of the towing shuttle.

(J18.52) SIZE DIFFERENTIAL: If the towed shuttle is larger than the towing shuttle, movement is reduced by four points. Cargo or ordnance carried by either shuttle has no additional effect.

(J18.53) DISENGAGEMENT: If a shuttle can disengage from a scenario without being on a ship, then the towed and towing shuttle may also do so.

(J18.6) COMBAT

(J18.61) SEPARATE TARGETS: The two shuttles are considered separate targets for all purposes (including ESGs, SFGs, and displacement), except that only the towing unit could trigger a mine.

(J18.62) LIMITATIONS: The shuttle being towed cannot fire weapons or use any of its systems (e.g., SWAC, scatter pack, minelaying, minesweeping, or wild weasel) except that it could drop chaff.

(J18.63) PROXIMITY DAMAGE: Because of the unusually close proximity, any damage to one shuttle caused by a seeking weapon is treated as causing collateral damage (as if in a WW explosion hex) to the other shuttle.

END OF SECTION (J0.0)

(K0.0) FAST PATROL SHIPS

The Lyrans developed the Fast Patrol Ship (PF) concept; first using them in action during Y178. Within a few years, most other empires had adopted them. These were considered as attrition units that could be produced by factories at a rate approaching that at which they were lost during intensive combat. Major starships take years to build and can be lost within an hour of entering their first battle; some factories could produce several PFs per week.

PFs were developed from the earlier ships known as "interceptors" (K3.0) which were used in limited numbers.

NOTE: PFs are sometimes referred to as "pseudo-fighters." This designation is incorrect and should not be used. Similarly, the abbreviation P/F is no longer used.

See (KC0.0) in *Module C3A* for conjectural Andromedan fast patrol ships.

(K0.1) DESCRIPTION

(K0.11) PFs ARE SHIPS: For game purposes, PFs are considered to be ships of size class 5 with certain special rules noted here and elsewhere. Some examples include:

Limited mine detection range (M7.322).
Harder to find when hidden (D20.231).
Less effective than ships in tactical intelligence (D17.3).
Do not use energy balance due to damage (D22.0).

(K0.12) GENERAL: PFs can more properly (for game purposes) be termed small ships than large fighters. Shuttlecraft are on the order of ten meters long and starships between 150 and 400. PFs are about 35 meters long and are perhaps more comparable to a twentieth-century heavy missile boat than anything else. The term "gunboat" is often used for PFs, particularly when referring to Klingon G1s.

(K0.121) Most PFs are virtually identical in most details (any exceptions are clearly noted in the specific rule for that unit). They do not carry shuttlecraft, tractor beams, or even transporters. (Exception: The one PF Leader in each flotilla has these facilities, and there are some other exceptions.) PFs do have a passive transporter receptor station on board (which is not on the SSD). Most PFs were built in the same general shape as the larger ships in the same fleet for identification (and tradition) purposes.

(K0.122) In the event of disaster, the crews eject in self-contained survival pods which broadcast a homing signal. Unless you are using (K1.9) for a specific scenario, these survival pods are not a factor in the game. It can be assumed that if rescue is possible your loyal staff will arrange for it to happen.

(K0.123) The key to the operation of a PF is its engines, which produce far more energy for their size than any others. This is made possible not just by advanced technology, but by omitting from their design certain maintenance systems included in all other warp engines. The result is that PF engines build up "ionic charges" that will eventually destroy the engine. These charges must be flushed out by the base or PF tender; full-size starships flush their own engines continuously. These charges are normally not a problem since PF missions are planned to last no longer than the engines, but in some cases a PF may find itself in combat while near the end of its engine cycle. This is covered in (K6.0).

(K0.2) LIMITATIONS

(K0.21) RANGE: PFs are very short-ranged due to their engines (K0.123). While they are as fast as starships, they cannot approach their range. (On the strategic map presented in *Federation & Empire,* a PF's range is limited to a single hex while starships can travel several times that far.) Most PFs are towed by starships or operated from bases. An average mission lasts less than 48 hours.

(K0.22) HABITABILITY: Internal space is cramped, and the crews do not live on board except during missions. PF crews are normally on the order of twenty to 40 beings, most of which remain strapped into their acceleration couches during most of a mission. PFs do not have artificial gravity, and the crew must remain in pressure suits during combat since the main life support system is shut down to save power.

(K0.3) UNIT ORGANIZATION

(K0.30) BASIC: All empires (those that use PFs) organize their Fast Patrol Ships into "flotillas" of six PFs. Each flotilla nominally includes a PF leader, a PF scout, and four standard/combat PFs.

(K0.301) This is not an absolute, however, and flotillas in some sectors may be over or under strength (K0.33), depending on the relative rate of losses and replacements. Also, a few PFs operate independently in some cases.

(K0.302) PFs are assigned to flotillas before the scenario begins and cannot be reassigned to other flotillas during a scenario.

(K0.31) SCOUTS & LEADERS: It is the general doctrine to include one PF leader and one PF scout in any flotilla which is based on a true PFT. [Exception: flotillas based on casual PFTs (K2.114). See (K2.1) for the definitions of PFTs.] Flotillas which are short a leader or a scout may have those replaced by standard PFs and have a priority in receiving replacement units of the appropriate version. Units involved in combat generally have a higher priority for replacements. Players should follow these guidelines when playing a particular scenario or campaign.

Players may choose to replace a scout and/or leader with standard PF versions in order to simplify a given scenario; however, doing so would be an "historically" unusual practice and sacrifices key capabilities. Nevertheless, circumstances may arise in a campaign or a scenario when these versions are not available. The PF flotilla SSDs in *Module K* include one leader and one scout. With appropriate photocopies, it should not be difficult (for those who wish to do so) to replace either or both these with standard PFs.

(K0.32) MIXED-FLOTILLAS: There are strict limits on what variants can and cannot be mixed into a flotilla.

(K0.321) Romulan StarHawk and Centurion PFs cannot be included in the same flotilla. Other prohibited combinations may be listed in the ship descriptions.

(K0.322) The Hydrans operated "pure" flotillas of Harriers, Hellions, and Howlers, with a few Valkyries replacing PFs in some flotillas of each type. Mixed Harrier-Hellion flotillas were extremely rare and appear only in a few published scenarios; mixed flotillas can only appear in patrol scenarios (S8.0) with permission of the opponent. Howlers were available in extremely limited numbers, and their appearances were so rare as to make any hard-and-fast rule impossible. The Kzintis sometimes included one (maximum) Multi-Role Needle in a flotilla of standard Needles, but this was unusual.

(K0.323) Some empires replace one or two of the four standard PFs in a flotilla with one of the variants. For example, Klingon G1 (or G1B) flotillas often included one G1D (and vice versa), and Tholian flotillas include two web-equipped PFs among the standard Arachnids as a standard deployment.

(K0.324) Cargo, commando, and mine warfare PFs cannot be mixed in a flotilla with other PFs unless specified by a published scenario, rule, or ship description, or when agreed to in advance by all players. Modular PFs which are part of those flotillas but operating in those roles are an obvious exception. This could also be done in a campaign where the players arrange PFs into flotillas.

(K0.325) There cannot be more than one leader and one scout within any group of six PFs participating in a scenario. [An obvious exception would be a campaign game, such as (U9.0) or something similar to it, where players would pay the price of such deployments.] However, it must be noted that not all flotillas operated at full strength all of the time. It would be almost impossible for a flotilla to consist of six PF Leaders. (The only case would be in a campaign where the other 30 members of six flotillas had been destroyed.)

(K0.33) STRENGTH: In actual operations (due to variable loss, repair, and replacement rates), the flotilla might have as few as three or as many as eight PFs. [See the Campaign Game (U9.0).] If more than six PFs appear as part of "a flotilla," the PFs above six are not part of the flotilla for purposes of (K2.52) and (K1.752). No more than one PFL and one PFS can be included if any other PFs are excluded.

(K0.331) For most scenario purposes, six will be assumed because most flotillas belong to a division of several flotillas, and the commander will routinely break up some flotillas to keep others at full strength.

(K0.332) For all practical purposes, a campaign game is the only place that an incomplete, overstrength, or non-standard (i.e. other than leader, scout, and four other PFs) flotilla would appear.

(K1.0) GENERAL OPERATIONS

Due to their relatively identical nature, all PFs use these same identical rules. Unless otherwise specified in the rules, and within the restrictions and modifications noted in this section, PFs are treated as ships.

(K1.1) ENERGY ALLOCATION

(K1.11) ENERGY: PFs operate as ships and fill out an Energy Allocation Form every turn. However, due to their special nature, many items on this form are simplified or eliminated. Orion PFs and interceptors may double their engines using (G15.22).

(K1.12) ZERO COST SYSTEMS: PFs do not expend power for life support or fire control, except as noted below or in a unit description.
(K1.121) Ground assault PFs pay 1/5 point for life support when carrying troops because of the large number of personnel on board. Any PF carrying additional personnel for some reason would also pay this cost. Other cases might be provided as special scenario rules, e.g., a cargo PF might need life support for certain types of cargo.
(K1.122) The Klingon G-1N (R3.PF6) pays 1/5 point for life support due to the need to keep the senior officers comfortable.

(K1.2) MOVEMENT

(K1.21) COST AND TURN MODE: PFs all have Turn Mode AA and a movement cost of 1/5 of an energy point per hex.

(K1.22) ACCELERATION: PFs can accelerate to triple their current speed or by fifteen, whichever is greater.

(K1.23) HIGH ENERGY TURNS: PFs can make one HET per scenario without any chance of breakdown, and break down on a die roll of six thereafter. They do not get the (C11.22) benefit for HETs. Orion PFs get a single bonus (C6.521).

(K1.24) NIMBLE: PFs are considered "nimble ships" (C11.0) but do not get the HET benefit; see (K1.23). They pay the lower "nimble" cost for Erratic Maneuvers provided in (C10.16).

(K1.25) TOW BARS: All PFs have one external docking hardpoint (known as the "tow bar") which can be used to tow another PF (presumably a damaged PF being taken back to base). Any friendly PF (an allied PF, a captured PF, interceptor, or a PF of a different type from the same empire) can be towed, as can a survival pod. PFs use their tow bars to dock to ships (C13.9).
(K1.251) PF leaders and some other PFs (which have tractor beams) can use the mech-link procedure (K2.2). Other PFs which lack tractors must dock using (C13.9) with the PF to be towed; however, that rule may be used without requiring the use of tractor beam to perform docking. Furthermore, once docked using a tow bar, no tractor energy is required to hold the two units together. The two PFs must be facing in the same direction.
(K1.252) The towed PF can operate and reinforce its shields (and sufficient power-producing systems to power them), but it cannot operate any other systems except (if needed) life support or a cloak. It cannot arm weapons or allocate power for any form of movement (even in anticipation of release). A PF which is being towed on a tow bar can perform (D9.2) and (D14.0) repairs [using (D14.32)].
(K1.253) The towed PF is fired at as a separate target; survival pods cannot be fired at. The EW status of the towing PF applies to the towed PF. Either PF can cloak both, but see (C13.949). In the case of seeking weapons, (C13.943) applies, but such a weapon will not accept a survival pod as a target. The towed PF does not block any weapons of the towing PF.
(K1.254) The towing PF must pay the total movement cost of the combination (i.e., 2/5s for PFs). It can disengage by acceleration. See (C13.948) for high warp maneuvers. See (C11.31) for loss of nimble status. The speed limits of (C13.921) do not apply.
(K1.255) The tow bar cannot be used to tow shuttles, fighters, pods, ships, pallets, mines, booms, saucers, docking modules, or anything except another PF or interceptor or survival pod.
(K1.256) A PF on a mech-link (or towed by a tow bar) cannot tow another PF or survival pod on its tow bar.
(K1.257) Either PF can release the tow bar on any impulse in 6B8 at the PF launch point; a survival pod cannot release itself from towing.
(K1.258) PFs docked to each other by tow bars cannot transfer personnel, cargo, power, or anything else.

(K1.3) CREW UNITS

(K1.31) CALCULATION: PFs do not make crew unit calculations; they do not lose crewmen due to damage (weapons, breakdowns, terrain, etc.). In this respect, they operate as shuttlecraft. Some monsters can affect PF crew units.
(K1.311) The crew assigned to a PF is the minimum crew, and if that crew is reduced, the PF is treated as undermanned under (G9.413).
(K1.312) The crew must evacuate before it can self-destruct the ship. This supersedes (D5.51). If no other friendly ships remain in play (all others have disengaged, been destroyed, or are also incapable of escaping) the crew can self-destruct the ship and attempt to escape in the PF's survival pod (K1.9).

(K1.32) STATUS: PF crews can use an optional crew experience system similar to the (J6.0) system used by fighter pilots; see (K8.0).

(K1.33) MARINES: PFs have one boarding party on board, but this BP is used only for defense of the ship against enemy boarding parties (i.e., they cannot leave the PF unless the whole crew does). Due to the small size of the ship, no more than one enemy boarding party could be on board at any given time. Attempts to seize the ship by boarding party actions operate normally (within the above limit), but hit-and-run raids cannot be made. No more than one crew unit can be converted to militia, and this will leave the ship undermanned (K1.31). Some PFs have more marines; see (K4.2) and (R1.PF3).

(K1.34) MUTINY: Klingon PFs cannot mutiny (G6.14).

(K1.4) SHIELDS

(K1.41) ENERGY COST: PFs expend only one point of energy to keep their shields at full strength (all printed boxes). PFs can pay 1/2 point for minimum shields, but there is little point in doing so.

(K1.42) REINFORCEMENT: PFs may not use specific shield reinforcement, but general shield reinforcement uses a ratio of one unit of energy to one damage point of protection. That is, each energy point put into general reinforcement will stop one damage point. Reserve power (H7.344) can be used in increments of one point of power stopping one point of damage, regardless of whether or not the specific shield hit has been damaged.

(K1.5) WEAPONS

(K1.51) SHIPS: Generally, the weapons on PFs operate exactly as those on larger ships, except that all direct-fire weapons are limited to a maximum (effective) range of fifteen hexes, except those noted in the ship descriptions or on the SSDs as having a shorter range. A few further exceptions are noted in the specifications for each type of PF.

(K1.52) DRONES: Many PFs use drones.
(K1.521) Unless specified otherwise in their description, PFs can launch drones from each rack each turn at the launch rate for that rack. Exception: Orion PFs are governed by (FD4.4).
(K1.522) PFs can control a number of seeking weapons equal to their sensor rating. PFs can transfer control of seeking weapons and accept transfers of control.
(K1.523) PFs cannot reload their drone or anti-drone racks; this is done only by the PFT.
(K1.524) Each PF buys its special drones individually. A flotilla cannot concentrate all of its special drones on a single PF, not even by using the cargo transfer (G25.2) rules during a scenario (K1.523).

(K1.53) MINES: PFs do not carry mines or transporter bombs (except for certain special variants). PF leaders (K4.3) can carry one transporter bomb and one dummy T-bomb.

(K1.54) PLASMA TORPEDOES: No PF armed with plasma-Fs can launch more than two per turn (not including PPTs) or within any period of eight consecutive impulses. These can be fired on the same impulse. See (K1.522) for control and (K2.432) for weapon status.
(K1.541) No PF has more than two PPTs. The specific launch tube of all plasma-Fs is not revealed to preserve the secrecy of the PPT. No PF can launch more than two plasma-Fs (including PPTs) on a single impulse. This rule is specific to PFs and overrules the general rule in (D17.4) Level E.
(K1.542) Plasma-Fs on PFs can be reloaded as those on ships can. PFs armed with type-D plasma racks (FP10.0) carry no reloads for them and are reloaded by their PFT.
(K1.543) PFs cannot bolt more than one plasma torpedo per turn (FP8.26). See (FP10.244) for an exception for plasma-Ds.

(K1.55) WEB: Tholian PFs can serve as web spinners (G10.24) or serve as anchor points (G10.1311). Only Tholian PFs with web generators can actually generate web.

(K1.56) CLOAK: Romulan and some Orion PFs can cloak. PFs cannot use long-term cloaking (D20.3); also see (D20.32).

(K1.6) WARP BOOSTER PACKS

PFs use a special form of booster pack attached to their main warp engines. This, in effect, doubles the warp engine power. Extra boxes on the SSD represent these add-on packs; they function simply as additional warp engine boxes except as noted below. Warp booster packs were available for PFs from the time PFs were built; some interceptors did not have them.

(K1.61) SPECIFICATION: PFs are assumed to be carrying booster packs into a scenario unless specified as not doing so. If creating your own scenarios, this is at the option of the owning player. The cost of warp packs is included in the BPV of the PF. If not carrying packs at the start of the scenario, reduce BPV by five (three for INTs). The cost reduction for not carrying warp packs applies only in the case of PFs or INTs appearing in a scenario without their tender.

(K1.62) DROPPING PACKS: PFs may drop their WBPs at the start of any turn, before the energy calculations for that turn are made.
(K1.621) If dropped, the packs cannot be picked up again; they are marked as destroyed.
(K1.622) All WBPs on a given PF must be dropped at the same time.
(K1.623) A PF docked to an external mech-link (or externally docked to anything else) can drop its packs. A PF docked internally cannot.
(K1.624) Dropping packs does not affect nimble status (C11.31).

(K1.63) INCREASED EFFECT OF DAMAGE: The presence of the highly volatile warp packs on a PF increases the possibility of major damage resulting from a relatively minor hit. As defined in these rules, each hit on a PF engine equipped with a warp pack may result in additional damage. Damage points can be scored on the warp booster pack or on the engine itself. The procedure is as follows:

1. Allocate all damage to the PF normally.

2. For each damage point on a warp engine carrying a booster pack (from that damage resolution step), roll a die and score a number of damage points on that warp engine equal to the result of the die roll. (This includes the damage point originally scored. It does not include any previous damage, even from the same volley. If the die roll is "1," there is no additional damage.) If the die roll calls for a number of damage points in excess of the number of undestroyed boxes in that engine, any excess damage points (from that die roll and from other damage points on that warp engine only) are lost (the engine being totally destroyed). Only the specific engine that was hit is damaged by these additional damage points.

EXAMPLE: A Kzinti PF takes two points of internal damage. One is on the center engine, which has a warp pack. A die is rolled, and the result is a two. The owning player scores these hits on the two boxes in the center booster pack. Later that turn a second volley scores three hits on the engines, two left and one center. The center engine is still considered to have a booster pack (even though it has been destroyed) since the PF has not dropped its packs. The die roll result is a four, but only the two remaining boxes are destroyed because that is all that remain. The first hit on the left engine rolls a five which destroys the warp pack (one box, the other having been destroyed by the original damage point), and completely destroys the left warp engine (two boxes), the other extra points being ignored. No die is rolled for the second damage point on the left warp engine because the engine and its warp pack has been destroyed.

(K1.64) DESTROYED WARP PACKS: Destroyed warp packs may be dropped, but note that all warp packs must be dropped at once (K1.62), and only at the start of the next turn.
(K1.641) If not dropped, they could be carried back to the PFT and repaired. If destroyed packs (on undestroyed engines) are not dropped, rule (K1.63) remains in effect.
(K1.642) PFs do not use Energy Balance due to Damage (D22.0); they use their original energy allocation for the remainder of the turn.

(K1.65) USE: A PF cannot "turn the packs off" as a fighter can. If the packs are on the PF, they produce power and can result in extra damage. Orions: see (G15.22).

(K1.7) ELECTRONIC WARFARE

(K1.71) ECCM: All PFs have two points of ECCM built-in which they can use without any energy cost (D6.393). These points can be dropped in order to use more ECM within the limits of (D6.31). These points ARE under the limits of (D6.31), and this rule forms an exception to (D6.3142).

(K1.72) SWING POINTS: All PFs have two "swing" points of electronic warfare that can be used for either ECM or ECCM (or one for each) without any energy cost (D6.3142).
(K1.721) These must be designated as ECM or ECCM during the Sensor Lock-On Phase of each turn.
(K1.722) The swing points can be dropped during the Fire Decision Step of the Fire Allocation Stage (6D1) of any impulse. They cannot be changed during a turn.

(K1.73) POWERED EW: PFs can use their own power for additional ECM or ECCM or receive external or borrowed electronic warfare as any ship can. The EW points generated under (K1.71) and (K1.72) are included within the six-point self-generated limit (D6.3141).

(K1.74) OTHER EW: PFs, being nimble ships, may receive additional ECM points (for purposes of enemy direct-fire weapons) from (E1.7). Orion PFs have additional EW points from the Orion stealth bonus, subject to (G15.8).

(K1.75) PF SCOUTS: Scout PFs (R1.PF2) can perform all scout functions except that their use of (G24.32) to adjust weapon status is limited to the PFs of the flotilla that the scout is part of and the tender (and any fighters operated by the tender), and can only be used if the PFS is undocked and active before the scenario begins. Docked PF scouts cannot use their channels (G24.1842). In the absence of statements to the contrary, the conditions of (G24.0) apply. For minesweeping, see (M7.322).
(K1.751) PF scouts use the procedure in (K2.52) to lend EW to the PFs of their flotilla (K0.302). A PFS can lend EW to a single fighter (from the PFT or flotilla only), but cannot lend EW to a fighter squadron (even from Fi-Cons within the flotilla).
(K1.752) PF scouts can lend EW to their PFT (i.e., their original "true" PFT) if it is within fifteen hexes, but cannot lend to both the PFT and their flotilla during the same turn, even with separate channels. PF scouts cannot lend EW to units other than the PFs of their flotilla and to their PFT. PF scouts can use offensive EW (G24.219), but only against other PFs or fighters, and OEW (from a single channel) only affects a single PF or fighter. PF scouts cannot lend EW to a fighter squadron, even if was launched by Fi-Cons from the scout's flotilla. A PF scout can lend EW to a single fighter by this rule if the fighter is launched by a Fi-Con in the scout's flotilla or by its PFT.
(K1.753) The PF scout receives the benefit of the EW it is lending to other PFs in its flotilla.
(K1.754) If the PFT operates more than one flotilla (e.g., a starbase), each flotilla is treated separately and could be supported by their own PFS, but not by the PFS of another flotilla.
(K1.755) Casual PFTs almost never have PF scouts; see (K2.114).

(K1.756) PF scouts can "go wild" as Federation SWAC shuttles can; see (J9.2). Wild scout PFs cannot exceed a practical speed (C2.411) of twelve, disengage by acceleration, or cloak. The deceleration to Speed 12 or less is not automatic; it must be plotted or emergency deceleration must be used. Wild PFs cannot leave a fixed map and can only attract seeking weapons targeted on another PF of their specific flotilla or on their specific (original, true) PFT. Wild PFs can cease being wild at the start of any subsequent turn, but are then treated as a previously-wild SWAC. There is no energy cost for "wildness." A Scout PF does not require the use of its scout sensors to "go wild" but cannot use the sensors for any purpose while it is wild.
(K1.757) PF Scouts cannot operate their special sensors within 1/8 turn (four impulses) of being launched from their PFT.

(K1.8) FI-CON (PFF) OPERATIONS

Some PFs are equipped to operate as Fi-Cons, or Fighter-Conveyors (designated PFF). The general idea is that the PF holds the fighters in special links (similar to mech-links) and delivers them to the combat area. The mech-links on Fi-Cons are not tractor beams, but are simply mechanical linkages that can hold a fighter or shuttle. Fi-Cons will normally have one (sometimes two) tractor beams to facilitate fighter operations. The concept was intended to increase the range of fighters and was not particularly successful. Only the Kzintis and Hydrans used Fi-Cons to any extent. The Kzintis organized a division of two flotillas (one of Fi-Cons and the other of standard Needles). The Hydrans sometimes mixed one-to-three Valkyrie Fi-Cons in their PF flotillas. The Lyrans used Fi-Cons in limited numbers from some of their carriers, and all PF-using empires experimented with the concept.

(K1.81) OPERATIONS: Fighters held by the links on Fi-Cons launch and land using the standard procedures in (J1.50-52). Each shuttle box on a Fi-Con operates as a separate "bay" for purposes of the launch/landing rates; there are no deck crews or bay transfers. Fi-Cons cannot operate heavy fighters.

(K1.82) INABILITY TO SUPPORT FIGHTERS: Fi-Cons cannot re-arm or repair the fighters they carry. Fi-Cons cannot provide Electronic Warfare Support to the fighters. Generally speaking, Fi-Cons are operated from bases (and in lesser numbers from carriers) to extend the range of fighter strikes. Fi-Cons do not have their own fighters, but borrow fighters from the carrier, SCS, or base from which they, themselves, operate. Fi-Cons on a PFT would have to borrow fighters from a carrier in the same squadron/fleet. Fi-Cons are configured for a specific type of fighter, and some types cannot be carried.
(K1.821) Note that because of (K1.82) the fighters must be "prepared" on the carrier or base before they can be placed on the Fi-Con PFs. (The pilots could hardly survive days or weeks of sitting in their cockpits while attached to a Fi-Con that was attached to a carrier.) If Fi-Cons enter a scenario (not docked), any fighters on them will be fully armed unless the scenario specifies otherwise.
(K1.822) If a scenario provides for a carrier (or SCS, or base) with Fi-Cons to enter a scenario, the presence of fighters on the Fi-Cons are limited to those that can be armed and launched under the WS rules. Fighters on Fi-Cons cannot be released before a scenario begins, regardless of weapon status, unless specified by the scenario.

(K1.9) SURVIVAL PODS *(Optional)*

Whenever a PF is destroyed, there is a 50% chance that the crew (or part of it) will escape in their survival pod. These survival pods cannot move and have no weapons, but contain sufficient life support facilities to last for a few days and a sub-space homing signal. PFs do not use (D21.0) Catastrophic Damage; they use the procedure in (K1.91) instead. The shuttle on a PF leader, and/or fighters on a Fi-Con, can escape under (D21.41).

(K1.91) ESCAPE: During a scenario, whenever a PF is destroyed, roll one die. If the result is one-to-three, the crew has escaped in a survival pod. Mark the location of this pod by turning the PF counter upside down in that hex.

If the die roll is four-to-six, there are no survivors.

See (K8.42) for Legendary Ace PF crews.

If the impact of an ESG destroys a PF, the survival pod is considered to have been destroyed before it could be released. The survival pod is not placed on the map and does not further reduce the ESG.

(K1.92) RESCUE BY SHIP: Any ship, friendly or enemy, can rescue the crew in a survival pod by either docking with the pod (C13.9) or by pulling the pod into a shuttle bay (as a shuttlecraft, but there is no "death dragging"). The crew units in the pod then transfer to the ship, and the pod is abandoned. The pod has no value in itself and cannot be re-used. If the pod is an enemy pod, the crew inside it surrenders immediately upon being rescued. They are in no position to attempt to fight the enemy.

(K1.93) RESCUE BY PF: The crew in a survival pod which has been docked to a PF (on its tow bar) does not transfer to the PF (there isn't room) but remains in the pod. The PF can move normally while carrying one pod; it cannot dock with two or more pods simultaneously. In the event that the rescuing PF is destroyed, the attached pod has the same chance (by a separate die roll) of survival. If both the PF crew and the attached pod survive, both will be in that same hex.

(K1.94) OPERATIONS
(K1.941) PF survival pods (once successfully placed on the map) cannot be fired at or destroyed (except by collision with an ESG).
(K1.942) PF survival pods can be tractor beamed, displaced, pulled by a black hole, or put in stasis.
(K1.943) PF survival pods cannot move under their own power and have no weapons.
(K1.944) The crew can be removed from the pod (with their permission) by a single transporter operation.
(K1.945) The pod survives any explosions (mines, ships) in the area, including that of the ship from which it escaped.
(K1.946) Pods cannot survive in the WYN radiation zone. Pods in a nebula, radiation or heat zone, solar flare, or ion storm would survive for a substantially reduced period (i.e., they must be rescued by the end of the scenario or they are lost). Towed (as opposed to docked) pods could be damaged if towed through asteroids, rings, or dust.
(K1.947) Pods released in the atmosphere of a survivable planet will reach the surface by parachute within a few hours. Of course, pods released in the atmosphere of a gas giant will be destroyed by atmospheric pressure after the scenario is over.
(K1.948) Except as noted, survival pods are treated as large mines (which cannot explode). Thus, an ESG striking one would lose six strength points. Note that a PF destroyed by an ESG cannot release its escape pod (K1.91).
(K1.949) PF survival pods are actual structural parts of the PF and cannot be dropped separately from the PF without effectively destroying the PF at that point.

(K1.95) RESCUE: Rescuing the pods of enemy PFs adds five economic points to the cost of the destroyed PF for purposes of (S2.21). Rescuing your own pods denies this to your opponent. For example, if a destroyed enemy PF (from which the pod did not escape) is worth twenty economic points, this is 25 if the crew is captured but only fifteen if the crew is rescued.

Friendly units (to the PF crew) cannot destroy the pod to prevent their capture (except by "accidental" collision with an ESG).

(K2.0) PF TENDER OPERATIONS

PF tenders (PFTs) are designed to operate with, or independently of, the main fleets. They provide living quarters for the PF crews, lab facilities, repair capability, and long-range sensors to detect potential targets. In effect, they operate much as carriers do.

Many ships have a limited capability to carry PFs and are treated as "casual PFTs" for these rules within those limits.

True fast patrol ship tenders, designated by a "P" in their notes column on the Master Ship Chart (Annex #3), such as space control ships cannot operate heavy fighters even though they may also be true carriers, i.e., designated by a "V" in their notes column on the Master Ship Chart.

(K2.1) PFT MISSIONS AND TYPES

(K2.11) PFT DEFINITION: A PF tender is a ship designed to transport and support PFs. There are four general types of PFTs; the term "PFT" includes all of these types:

(K2.111) TRUE PFTs have six mech-links, repair systems, and special sensors. Any ship with the designation PFT is a true PFT, but some true PF tenders are designated PFW or NPFT, etc. The Master Ship Chart (Annex #3) designates all true PFTs with a "P" in the notes column, and some are also noted in their ship description.

Many tugs can be converted into true PFTs by using special PFT pods. There are no PFT pods which do not result in converting the tug into a PFT, but some pods have only three mech-links and are usually used in pairs.

True PFTs carry a standard flotilla (including one leader and one scout). The Romulan ChickenHawk is a true PFT, but has only three PFs; it is normally operated in pairs with a standard flotilla, but a ChickenHawk alone would have three standard PFs.

(K2.112) BASES: Most bases had a PFT capability added. The special sensors and repair systems were always present; the only thing needed was a PF Base Augmentation Module with mech-links. With such a module, a base is treated as a "True PFT" except where noted differently. Small ground PF bases exist and are true PFTs; see (R1.28J) and (R1.28K).

(K2.113) SPACE CONTROL SHIPS: These are usually dreadnought hulls modified to carry twelve fighters and six PFs. They are true PFTs even though they generally lack special sensors (K2.52); most have specified drone storage (K2.65). The Lyran Lion DN and Hellcat BCH, the LDR BC, and the Romulan ROC (and a few others), while they have no fighters, are treated under this classification. The Federation SCS has no PFs; the conjectural SCSA has conjectural PFs. The Kzinti SSCS is a true PFT. All will have the "P" in the notes column of the Master Ship Chart. (Fed SCS has no PFs and no P.)

(K2.114) CASUAL PFTs: These are ships modified to carry from one-to-six (usually two) PFs for increased firepower. These ships have fewer reload weapons (K2.65). Most do not have repair or scout systems, but the ability to install mech-links on virtually any ship (R1.R1) could create casual PFTs that had those systems (by installing the mech-links on a ship that already had scout and/or repair systems). For example, the Lyran Wildcat BC is a casual PFT, but can repair PFs.

The PFs on casual PFTs are all of the standard combat types (no leaders, scouts, or versions unless specified in a published scenario). [It is theoretically possible that in a multi-scenario campaign a casual PFT might have some of the PFs from a destroyed PFT.]

In a conjectural universe where the Federation built PFs, they do not use F-111s. Even in a situation in which players agree the Federation can use PFs and F-111s, no ship carrying F-111s can use (R1.1) to add PFs to tractors. If the Federation is allowed to use their conjectural fast patrol ships in a campaign, they forfeit the ability to use F-111s (to include FB-111s), and the Gorns cannot use G-111s.

(K2.12) PURPOSE: The primary purpose of a PFT is to transport PFs to an area of tactical operations. To assist in this, some or all of the tractor beams of a PFT have been equipped with special adapters (K2.2). Some PFTs can carry some of their PFs in internal spaces much like shuttle bays, although considerably larger.

PFs on mech-links can be detected and must be announced. Those in internal bays need not be revealed until they are launched or damaged (K2.4). Note that, if using optional rule (D17.0), these conditions are defined by that rule.

(K2.13) FLOTILLAS: Most (but not all, e.g., ChickenHawk) PFTs are designed to tow six PFs since all PF flotillas (the groups they operate in) consist of six units. Note that a PFT could tow one flotilla in its couplings and another by tractor, but it could not do this for very far (it could not disengage) and, in practice, would only do so if PFs were orphaned when another PFT was destroyed.

No PFT (or other ship) can carry more than six PFs (or have more than six mech-links, including fighter mech-links) at a time (even with player modifications); the Romulan RedHawk, Kzinti SSCS, starbases, and stellar fortresses are the current exceptions. More exceptions may be added by later products and will be noted as such in their ship descriptions. There is a partial exception in that some ships (e.g., Klingon B10S and Kzinti SCS) have six external mech-links *plus* one or two internal repair docking positions. Under certain conditions a special-mission PF might be carried in these internal positions in addition to the normal flotilla.

(K2.2) MECHANICAL LINKAGES

The special equipment attached to the tractor beams of PFTs is known as a "mechanical linkage" or "mech-link." Note that mech-links are installed on PFTs, some other ships, and on some bases and base modules. These are all treated identically for all purposes.

(K2.21) DOCKING: The PF is docked solidly to the ship (K2.31) and held there by mechanical couplings, not by the tractor itself. Each tractor equipped with a mechanical linkage can hold only one PF. Once attached to the linkage, it costs no energy to hold a PF there.

(K2.22) TRACTOR ABLE TO FUNCTION: While the mechanical links are combined with the tractor beams, the tractors can still operate with a PF in the linkage.

(K2.221) If the tractor beam is destroyed (by any means including a hit-and-run raid), any PF held on its linkage is unaffected and could be held indefinitely, repaired (if that mech-link is repair capable) and/or rearmed, and released at will, but no PF (except a PF with a working tractor beam) can dock to a destroyed tractor/mech-link.

(K2.222) A ship cannot use a given tractor beam to dock a PF to a different tractor/mech-link.

(K2.23) MOVE COST: PFs towed by tractor beam increase the movement cost of the PFT (G7.32). PFs held in mech-links or in internal bays do not increase the movement cost of the PFT.

(K2.24) SYMBOL: Mechanical linkages are shown on SSD sheets by a triangle within the tractor beam box. There are different types of symbols for different types of mech-links.

Mech-Link (K2.2)	Internal Mech-Link (K2.62)	Repair-Capable Mech-Link	Heavy Fighter Mech-Link	Shuttle Mech-Link

The Repair-Capable Mech-Links use (K2.63) collapsible bays.

Heavy fighter and shuttle mech-links are covered in (J1.56). PFs cannot dock to shuttle or heavy fighter mech-links. Note that "shuttle mech-links" including "heavy fighter mech-links" are tractor beams with extra equipment unless noted otherwise. Mech-links can dock (and if capable, repair) allied PFs and interceptors. The mech-links on Fi-Cons are not tractor beams, but are simply mechanical linkages that can hold a fighter or shuttle. Fi-Cons will normally have one (sometimes two) tractor beams to facilitate fighter operations.

See (R3.161) for transport mech-links.

See (R1.69A3) for workboat mech-links.

(K2.25) SHUTTLES: Shuttles (any size, including fighters) can be held in a PF mech-link, but cannot be rearmed or repaired there. (Note that some ships, specifically the Federation SCS, have mech-links designed to re-arm double-sized attack shuttles.) Shuttles held in mech-links are not destroyed by disengagement. In such cases, the crew of the shuttle can transfer to and from the PFT, but cargo transfer is limited to "small objects" (e.g., dilithium crystals). Shuttles can land/crash in internal mech-links (J1.63) if no PF is there. Fighters and shuttles cannot be carried into a scenario on a PF mech-link, but might be carried out of a scenario on a PF mech-link. Special scenario rules or campaign circumstances might result in a

shuttle or fighter being on a PF mech-link at the start of a scenario, but this is always a special case.

(K2.26) LANDING PADS: Some ground bases, such as (R1.28J), are fitted with PF landing pads. These function as mech-links except that they do not operate as tractor beams and require no energy. Each pad is destroyed by one "tractor" hit, and repaired at that cost. If a pad is destroyed, any PF on it is treated as per (K2.221).

(K2.3) OPERATIONS

(K2.31) LANDING: PFs are landed into mech-links by the same rules as recovering shuttles (J1.61), with the additional restriction that, at the moment of docking, the PF must be facing the same direction as the ship (ignored in the case of a base). The PF decelerates to Speed Zero at the time of docking (regardless of any other limits on deceleration), and all further movement energy for the remainder of the turn is lost at that point. Rule (J1.63) cannot be used by PFs (crashing into enemy bay). PFs can be docked by (J1.62) but cannot use (J1.621).

(K2.32) RELEASE: PFs can release from the towing ship during any impulse and begin operating immediately.
(K2.321) PFs must have completed an Energy Allocation Form at the start of the release turn. For this purpose, the PF has a speed of zero at the time of undocking and must accelerate from that point using a mid-turn speed change (C12.0). A PF must allocate energy for a full-turn's movement, even if only a portion of the turn remains at the point of release.

EXAMPLE: A PF released on Impulse #17 and programmed to move at a speed of fifteen would require three energy points (fifteen movement points) even though it could only expend eight movement points during the turn. The excess movement points are lost.
(K2.322) PFs cannot fire, launch, or control any weapons (or use tractors or transporters) within 1/8 turn (four impulses) of launch. (They become fully operational faster than fighters can due to their nature.)
(K2.323) PFs have the same facing as their PFT when released. PFs launching from a base can have any facing at the owner's option. PFs (including INTs) do not have their Turn Modes satisfied at the point of launch.
(K2.324) PFs can begin Erratic Maneuvers (C10.0) on the impulse after release. Effectively, Erratic Maneuvers takes effect for PFs at the end of the impulse in which they were released.

(K2.33) SHIFTING: PFs can be shifted between mech-links by having them release and re-attach by the normal procedures. Shifting between mech-links of the same PFT (or Base Augmentation Module) can be done by releasing on one impulse and redocking on the next (or any subsequent one). Shifting between PFTs, even in the same hex, requires an eight-impulse delay. There are no internal docking positions able to hold more than one PF. An operating tractor beam is not required for this procedure. See (K2.35).

(K2.34) RELOADING WEAPONS: PFs reload weapons while docked to a PFT as follows:
(K2.341) The drone racks on docked PFs can be reloaded from the PFT exactly as would a drone rack on the PFT itself. As this takes the rack out of service for an entire turn (during which only part of the rack would be reloaded), a PF that undocks earlier will not have received reload drones. This is the only way that PFs can reload their drone racks. See (K2.65) for additional information on reloading. ADDs use the same procedure.

Note that type-D plasma torpedoes are stored and handled as drones; the PF pays to arm them (K2.433).
(K2.342) No PFT has any provision to reload type-F plasma torpedoes or any other energy-based weapon. PFTs do not have "fighter reload boxes" (J4.8) for the PFs (although they might have them for any fighters carried). Each PF reloads these weapons itself.
(K2.343) PFTs can reload mines, troops, or cargo on appropriate PFs by the appropriate rules; (G25.0), (C13.9).
(K2.344) PFTs do not have deck crews for their PFs; exception. (They might have deck crews for fighters being carried.) See exception for modular PFs in (K2.381).
(K2.345) PFTs cannot repair or re-arm fighters carried by Fi-Con PFs which the PFT is carrying unless they have ready racks and deck crews or use (J4.8962). Most Fi-Cons were deployed on bases or carriers. Space Control Ships could carry Fi-Con PFs in place of some of their standard PFs and could load some of their organic fighters on those Fi-Cons, but could not carry their normal fighter squadron and extra fighters linked to the Fi-Con PFs. See (K1.82).

(K2.35) LIMITS: Any number of PFs (up to the number of mech-links) could be docked or undocked during the same turn, although not more than one PF may dock to a specific mech-link at the same time. A specific mech-link may not dock a PF (or shuttle) within 1/8 turn of having undocked a PF or shuttle (even the same one).

(K2.36) CREW: The crew units on a PFT (those listed on the Master Ship Chart or on an SSD) do not include the crews of the PFs (G9.18).
(K2.361) If the PFs are docked, considerably more people (or whatever) may be on the PFT and separate records must be kept of them. The PF crews could be given up as casualties instead of the PFT's crew, but this would make the PFs useless, as there would be no one to operate them. See (D21.422) for use of PFs in escaping.
(K2.362) PF crews can serve as crew units on ships, and ship crew units can serve as PF crews. For purposes of crew quality, outstanding ship crews would be treated as good PF crews, and Ace PF crews would be treated as "normal" ship crews.
(K2.363) In any scenario without specific rules to the contrary, it is assumed that each PF crew has had time to transfer to their PF before undocking.

(K2.37) WEAPON STATUS: PFs docked to a base, ship, or PFT will have the same weapons status as that base, ship, or PFT. See (K2.43) and (K1.75).

(K2.38) MODULAR PFs: There are two modular PFs in *Module K*, the Kzinti Multi-Role Needle and the Romulan StarHawk. These PFs can be configured for special missions by changing small modules (or pallets) that contain a variety of systems. Availability of modules is listed in the unit description. No more than two deck crews can work on one PF.
(K2.381) The PFT can change module types on its PFs. It takes two deck crew actions (J4.817) to change one module. Each modular PF comes with one deck crew, which is combined with the ship's normal deck crews. While carriers can purchase additional deck crews with Commander's Option Points, a non-carrier PF tender cannot purchase extra deck crews to service its modular PFs. Weapons on dismounted modules cannot be armed until after they are installed. (They do not hold plasma-Fs, loaded with plasma-Ds/plasma-Ks/drones/mines, already have boarding parties or GCVs loaded, etc.) Modules not on a PF can be repaired by deck crews.
(K2.382) Both modules must be the same. Mixtures of modules from various options are not allowed due to dynamic balance. A modular PF cannot operate without modules. Even if none of the Starhawk modules are fitted with plasma-D racks, the plasma-D storage in (K2.651) is not reduced.
(K2.383) Both the MRN and STH have "ground assault modules" able to carry troops. These modules, however, do not come with free troops. The number on the Master PF Chart reflects capacity. The troops must be purchased or provided otherwise.
(K2.384) A player must pay for the initial modules by buying the PFs at their listed costs. The tender then has four additional (free) pairs (two combat and two special). Leader and scout modules are present only if purchased on a PF. Additional modules (beyond the ten per flotilla listed here) cannot be purchased. If any PF modules operated by Starhawks (or other modular plasma-armed PFs that may be added in a future product) are to have the Sabot refit (FP11.0), the appropriate refit cost (FP11.11) must be paid. The cost is paid for each pair of modules that are to have the refit whether that pair of modules begins the scenario on a Starhawk or in storage on the PFT. The refit cost is paid for the modules, but any Starhawk can use any pair of modules. A Starhawk cannot be fitted with one module that has the refit, and a second module that does not.

(K2.4) COMBAT CONDITIONS

(K2.41) DAMAGE TO PFTs: Damage points scored on a ship with PFs docked aboard may be applied to the ship or to any one of the PFs at the owning player's option. Each damage point is applied as it is rolled and before the next one is allocated. The decision to apply it to a PF is made after the type of hit is determined by the DAC.
(K2.411) The owning player cannot allocate to a PF a damage point designated for a type of system that the PF does not have (whether the PF has already lost all systems of that type or never had such a system). If the PFT has such a system and the PF does not, the damage point is applied to the PFT. If neither the PFT nor any of its docked PFs have such a system, go to the next column on the DAC and repeat this procedure. If the DAC calls for a damage point which the PF has and the PFT does not, the owning player can score it on the PF or move to the next column of the DAC at his option.

EXAMPLE: An aux con hit could not be allocated to a PF (which doesn't have that system) if the PFT has an undestroyed aux con. If the PFT has no undestroyed aux con, the next column on the DAC is consulted, yielding an Emergency Bridge hit (which PFs do not have). If the PFT has no Emergency Bridge remaining, the next column on the DAC is Scanner and the hit could be applied to either the PFT or any of the PFs docked to it which had an undestroyed Scanner.
(K2.412) Phaser hits scored on the PFT cannot be allocated to a PF held in a mech-link.
(K2.413) It is specifically prohibited for a PFT to carry cargo PFs for the sole purpose of using them to absorb damage. Cargo PFs can only be carried if the specific mission is to deliver cargo (or troops).
(K2.414) Warp engine damage points applied to a docked PF will cause the (K1.63) effect if warp booster packs are on that PF.

(K2.42) PF SHIELDS: PFs cannot operate their shields while docked to mech-links or an internal mech-link or a landing pad. They can activate them immediately upon undocking and drop them immediately upon docking. There would never be a time that they were not protected by one set of shields or the other, and there would never be a time when they were protected by both. Shield reinforcement energy (K1.42) will provide no benefit unless the PF is undocked.

(K2.43) RESTRICTIONS: While it is docked to a PFT, a PF cannot fire its weapons, use electronic warfare, use its shields (K2.42), use its scout functions (if any), move (including Tactical Maneuvers, High Energy Turns, or Erratic Maneuvers), or take any other action, except as described here or as specifically permitted in other rules. While it is docked to a PFT, a PF may be used to absorb damage (K2.41), accept repairs applied by the PFT (K2.61), repair itself under (D9.7), have its weapons reloaded by the PFT (K2.34), transfer items to or from the PFT (G25.0), or launch from the PFT (K2.32). Subject to these restrictions, a PF may generate power and perform a complete energy allocation. This may be done in anticipation of the PF being released on the current turn (K2.321), to repair itself under (D9.2) or (D14.0) [see (D14.32)], or to provide energy to its systems (including weapons) in anticipation of being released on a later turn. A PF cannot start a scenario with its weapons armed, except as described below.
(K2.431) At the beginning of the scenario, phasers on PFs are energized if the PFT is at WS-I or higher. The phaser capacitors will be filled if the PFT is at WS-II or higher. See (K2.434).
(K2.432) Other energy-based weapons (disruptors, hellbores, plasma-F torpedoes, fusion beams, etc.) are armed if the PFT is at WS-II or WS-III. At WS-0, only the PF leader will have its weapons armed. At WS-I, the leader and two PFs have their weapons armed. This rule supersedes the normal weapon status rules for multi-turn arming weapons. Furthermore, type-F plasma torpedoes are subject to this rule; they are not assumed to be always ready [this supersedes (FP1.23)].
(K2.433) Drones, plasma-D torpedoes, and ADDs are not restricted and are assumed to be loaded on their racks; safety devices are included in the drone racks. Plasma-D torpedoes are "activated" if the PFT is at WS-I or higher.
(K2.434) The PF leader always has its weapons armed at WS-0 or higher, except when surprised (D18.0). See (D18.17) for specific details of surprise.
(K2.435) PFs which are undocked at the start of a scenario have the same weapon status as their tender unless listed otherwise.

(K2.44) NO POWER TRANSFERS: PFs attached to a PFT cannot transfer power to the PFT, and PFTs cannot transfer power to any attached PFs.

(K2.45) COMBINED TARGETS: PFs held in mech-links cannot be fired at as separate targets from their PFT (K2.41).

(K2.46) CLOAKS
(K2.461) If a PFT is cloaked, any docked (but not towed) PFs are also covered by that cloak at no extra cost.
(K2.462) A PF which docks to or lands on a cloaked PFT exposes the cloaked PFT as in (G13.41). A cloaked PF which docks to or lands in a PFT is governed by (G13.46). If the PF and PFT are both cloaked, both (G13.41) and (G13.46) will apply.
(K2.463) The undocking or launching of an uncloaked PF does not void the PFT's cloak (G13.41) but will reveal the position of the PFT [if using hidden movement (G13.61) since the PF must be placed on the board in the PFT's hex]. If the PF is itself cloaked, the position of the PFT is not revealed.
(K2.464) A PF cannot use (C13.9492) to cloak its PFT.

(K2.47) DESTRUCTION: PFs docked to a PFT are destroyed if the PFT is destroyed. Exception: Externally docked PFs might escape by (D21.0) Catastrophic Damage, but see (D21.42). If an externally-docked PF fails to escape, it can attempt to use its survival pod (K1.91) for its own crew. A PF docked to a ship could be destroyed by damage allocated to the PF (K2.41), but as this would cause an explosion that damages the PFT it would be unwise to allocate damage in that manner. A hit-and-run raid might trigger this event.

(K2.5) SCOUT CAPABILITIES

Most PFTs (but almost no SCSs) have special sensors. Any PFT (true or casual) with special sensors can perform all scout functions (G24.0); those without scout sensors obviously cannot perform any scout functions.

(K2.51) FLEET SCOUT: PFTs can operate as a scout for a fleet. Note, however, the limited number of channels on most PFTs.

(K2.52) EW SUPPORT FOR FLOTILLA: A PFT can use one of its channels to provide EW support for its flotilla using (G24.213). This is within all restrictions of (G24.21). See (K1.75) for PF scouts.
(K2.521) This one channel can lend points to any and every PF (based on that PFT) that is within a range of fifteen hexes. This capability applies only to true PFTs (K2.11). Individual PFs can, of course, receive lent EW from any scout (except the PFS of a different flotilla).
(K2.522) The points lent are applied to every PF involved; they are not divided between them. If the PFT generates four ECM points for use in lending, every PF within range receives the four points. A PFT cannot, however, use the same EW point(s) for itself or another ship and also lend them to its PFs.
(K2.523) Death-Riders (K7.0) are never part of a flotilla for purposes of receiving lent EW.
(K2.524) If the PFT operates more than one flotilla (e.g., a starbase), each flotilla is treated separately and could be supported by a separate channel, but not by the same channel.

(K2.6) PF TENDER REPAIR CAPABILITIES

(K2.60) GENERAL: All true PFTs (and some casual PFTs, e.g., Lyran Wildcat) have some repair capability for their PFs. Many can only repair a PF if it is in a certain position. Note that some take PFs into internal bays for repair, while others can perform repairs only to PFs that are docked at certain mech-links. This is noted in the individual ship descriptions or on the SSDs. See (K2.24) for the SSD symbols used to denote these various types of mech-links.

(K2.61) REPAIR OPERATIONS: PFTs repair their PFs using the repair rules (G17.0), even while the PF uses (D9.2) for shield repair.
(K2.611) A PFT cannot use its repair capability on itself or any other ship (other than PFs docked) during a scenario. It could use its systems to repair any shuttle it carries and on detached warp booster packs or modules. Maximum repairs during a scenario 100 points.
(K2.612) PFTs (including SCSs) can perform 300 points of repairs to their PFs between scenarios (G17.1325).

(K2.62) DOCKING: Docking a PF internally (as on the Kzinti SCS, as opposed to the collapsible repair bays used by some PFTs) is done using the docking procedures: (C13.91) or (J1.62) [but not (J1.621)]. Internal PF docking positions are repair capable.
(K2.621) Energy must be allocated to tractors (one point to a tractor on the PFT or PF) to dock or undock, but this is not needed to keep the PF in the bay. (The "internal PF bay" is treated as a mech-link.) The tractor is required to undock from an internal bay, even though this uses the (K2.32) procedure which, in most cases, does not require a tractor.
(K2.622) Each docking space operates independently; there are no "ahead" or "behind" restrictions (as on FRDs). Each holds one PF.
(K2.623) Undocking is much simpler, using the launch procedures in (K2.32).
(K2.624) Damage can be scored on internally-docked PFs using the same procedure as those on mech-links (K2.41).
(K2.625) Enemy PFs and shuttles cannot be pulled into or deliberately crash into an internal docking bay or mech-link.

(K2.63) COLLAPSIBLE REPAIR BAYS: All PFTs which cannot dock their PFs internally use collapsible repair bays which extend around certain mech-links (usually those closest to the main hull, but sometimes all links).
(K2.631) The bays can be erected at the start or dismantled at the end of any turn, but the PF cannot be docked to or undocked from that linkage during the turns that the collapsible bay is erected or dismantled. Exception: (D21.421).
(K2.632) Repairs cannot be made during the turn that the bay is erected or dismantled. If no repairs are to be made, the bays need not be erected.
(K2.633) The erection or dismantling of bays can be detected at Level-D under tactical intelligence (D17.0) and must be revealed. If not using (D17.0), this action is detected automatically.

(K2.64) REPLACING WARP BOOSTER PACKS: All true PFTs carry two sets of extra WBPs for each of their PFs (casual PFTs have one set), in addition to those packs on the PFs being carried. The cost of these WBPs is included in the BPV of the PFT (i.e., no extra cost).
(K2.641) These can be mounted on or dismounted from PFs by the PFT; the process takes an entire turn, not 32 consecutive impulses, and must be plotted during Energy Allocation in the Initial Activity Phase (5) as part of the Reload Assignment Step. It is completed in the Final Records Stage (8C) as part of recording drone racks reloaded or unloaded. This can be done at any mech-link.
(K2.642) There is not room for additional WBPs (beyond those provided above) on the PFT (unless it has cargo boxes), but more could be delivered by a support ship between scenarios (unless prohibited by campaign rules) and would cost two points per set. If WBPs were on some other ship in the game, that ship could dock (C13.9) with the PFT and transfer one set of WBPs per turn to the PFT, using up the entire (G25.23) cargo transfer allowance for the turn (actually, exceeding it, but this is allowed at no penalty). The WBPs MUST be placed in storage (K2.64) or installed on the PF during the NEXT turn or they are lost.

(K2.65) DRONE STORAGE: PFTs carrying drone-armed PFs have drones stored for use by their PFs. Any listed capacity includes the first loading of each PF. The initial loading on the PFs is *not* counted against this allocation.
(K2.651) True PFTs carry 150 space points of spare drones per flotilla (in addition to those carried by the PFs themselves, the ship's drone racks and reloads for them, the ship's fighters or MRS shuttles and the reloads for them).
(K2.652) Space control ships are listed in Annex #7G. The listed storage is for PFs and fighters combined; any drone can be used by fighters, PFs, the SCS itself, an SP, or it could even be transferred to another ship by (G25.0). SCSs do not have the 150 drones from (K2.651). Note that the Federation SCS does not have PFs.
(K2.653) Casual PFTs carry two sets of reloads for each drone-armed PF, plus the drones on the PFs. This is based on reloads for the standard PF for the empire; the specific PFs embarked may find this storage excessive or inadequate. This is why "drone" variants are seldom carried on casual PFTs. There are two exceptions to this rule.
(K2.6531) In the case of plasma empires, as their standard PFs are armed with plasma-Fs, the casual PFT will carry two sets of plasma-D reloads for each plasma rack on the specific type of PF carried. This is in addition to the one loading already held in each rack of the PF.
(K2.6532) In the case of Orion Pirates, if the PF selects drone or plasma racks for its option mounts, the casual tender will carry two sets of reloads for each rack. This is in addition to the one loading already held in the selected rack.
(K2.6533) While this rule provides for the amount of drones carried, the type of drones carried will be appropriate to the PFs carried. G1Ks, for example, can only use type-VI drones, which standard G1s cannot use in the drone racks. Casual carriage of a drone-armed PF does not confer drone-handling abilities on a ship that does not itself use drones.
(K2.654) PFs use the same special drone percentages as the owning empire. These are calculated on each individual PF, not on the flotilla as a whole. (Special drones cannot be concentrated on a single PF at start, although they could be transferred between PFs during the scenario.) After the initial drone load is determined and paid, the reload drones stored on the PFT are in the same proportion as this initial load and at no additional cost. The storage and transfer of drones for and to PFs is the same as that on carriers for use by fighters, but deck crews are not needed to reload PFs (K2.34).
(K2.655) Type-D plasma torpedoes are handled as drones. PFTs operating PFs armed with plasma-Ds have the same storage as PFTs carrying drones, e.g., two sets of reloads for each PF armed with plasma-D racks plus the plasma-Ds in the PF's plasma racks. See Annex #7N for the number of plasma-Ds stored.

(K3.0) INTERCEPTORS

(K3.1) INTRODUCTION

The class of small ships known as "Interceptors" was the next-to-last step in the evolutionary trail that led from shuttles to fighters, then to heavy fighters, interceptors, and finally to PFs themselves. Every empire that produced PFs began producing interceptors a year or two earlier. Interceptors were effectively the prototypes of the PFs. They were designed to have the weapons of a heavy fighter, but with considerably more range and staying power. Since an interceptor had room for several crewmen to move around, make repairs, and perform maintenance, it could stay in space for several times as long as a fighter (although still for only 24-48 hours).

As a footnote in the history of starship design, interceptors are fascinating. As a combat weapon system, they were a disappointment. While larger than a fighter, they were still too small for effective employment. Most carried weapons on par with a heavy fighter, and their considerably higher cost was not matched by improved tactical performance. (Indeed, heavy fighters had proved generally disappointing in themselves.) The primary historical function of interceptors was to demonstrate that the PF concept was valid, but needed a vehicle about 50% larger. Once this was established, production rapidly shifted to PFs.

Interceptors were never deployed in large numbers. Most empires built fewer than 200 before reaching the conclusion that the design was too small. (The WYNs, who used foreign interceptors and PFs, eventually built their own PFs without having ever built interceptors.) They were not in service long enough to be subjected to the evolutionary process that produced variants; there were no leader, cargo, commando, or mine warfare versions.

(K3.11) DESCRIPTION: Interceptors are, within game terms, small PFs. With the exceptions and limitations noted in this section (and in some later rules modules), interceptors are treated in every way as PFs. [Rule section (K3.0) is based directly on section (K1.0) to provide a direct comparison of capabilities.] Due to their relatively identical nature, all interceptors use these same rules. Unless otherwise specified in the rules, and within the restrictions and modifications noted in this section, interceptors are treated as ships.

Interceptors average about 25 meters in length. They have a passive transporter station, one defensive boarding party, and survival pods, all just as PFs do.

(K3.12) LIMITATIONS: Interceptors have (within game terms) almost as much range as PFs. Their smaller size and lesser ability for self-repair provided more of a limitation than their engineering equipment. Like PFs, interceptors lack artificial gravity and suspend life support during combat.

(K3.13) UNIT ORGANIZATION: Interceptors of all empires that use them are organized into "squadrons" of six ships. There are no leader versions, but one interceptor in each squadron could be operated as an electronic warfare variant; see (K3.75) for information on this EW variant.

Due to high loss rates, even continuous replacements could not keep all interceptor squadrons at full strength. If the tempo of combat relaxed, the replacements could produce overstrength units. It would not be unusual for a squadron to enter combat with as few as three or as many as eight ships, although most scenarios assume a standard strength of six.

(K3.14) ENERGY ALLOCATION: Interceptors operate as ships and fill out an Energy Allocation Form every turn. However, due to their special nature, many items on this form are simplified or eliminated. Interceptors do not use power for shields, life support, or fire control.

(K3.15) BASING AND DEPLOYMENT: Any tactical deployment of interceptors was of a combat testing nature. Certainly no empire deployed more than a few squadrons, and never for very long. Deployments within a campaign game would be made two six-month turns before the introduction of PFs, with no more than six squadrons deployed. Thereafter, it could be assumed that any survivors would be assigned to local defense duties. It could be assumed that PF modules would be available for up to three bases, and that one or two auxiliary PF tenders and one or two warship-PFTs (maximum three ships) were produced for use by the interceptors.

(K3.2) MOVEMENT

(K3.21) COST AND TURN MODE: Interceptors all have Turn Mode AA and a movement cost of 1/6 of an energy point per hex.

(K3.22) ACCELERATION: Interceptors can accelerate to triple their current speed or by fifteen.

(K3.23) HIGH ENERGY TURNS: Interceptors can make one HET per scenario without any chance of breakdown, and break down on a die roll of six thereafter. They do not get the (C11.22) benefit. Orion INTs have a single bonus (C6.521).

(K3.24) NIMBLE: Interceptors are considered "nimble ships" (C11.0) but do not get the HET benefit; see (K3.23). They pay the lower "nimble" cost for Erratic Maneuvers provided in (C10.16).

(K3.25) TOW BARS: Interceptors do not have tow bars (K1.25), so they cannot tow each other or PFs, but they can be towed by PFs.

(K3.3) CREW UNITS

(K3.31) CALCULATION: Interceptors, like PFs (K1.31), do not take crew casualties, except for some monsters. See (K1.31).

(K3.32) STATUS: Interceptors can (at the option of the players) use the same crew quality system as PFs. See (K8.0).

(K3.33) MARINES: Interceptors have one boarding party on board, but this BP is used only for defense of the ship against enemy boarding parties. Due to the small size of the ship, no more than one enemy boarding party could be on board at any given time. Attempts to seize the ship by boarding party actions operate normally, but hit-and-run raids cannot be made.

(K3.34) MUTINY: Klingon interceptors cannot mutiny (G6.14).

(K3.4) SHIELDS

(K3.41) ENERGY COST: Interceptors do not expend any energy to keep their shields at full strength (all printed boxes).

(K3.42) REINFORCEMENT: Interceptors may not use specific shield reinforcement, but general shield reinforcement uses a ratio of one unit of energy to one damage point of protection. That is, each energy point put into general reinforcement will stop one damage point. Reserve power (H7.344) can be used in increments of one point of power stopping one point of damage, regardless of whether or not the specific shield hit has been damaged.

(K3.43) TWO SHIELDS: Interceptors have two shields, rather than the normal six shields. The forward shield covers the arcs of the normal #1, #2, and #6 shields. Any damage that would strike any of those three shields strikes the forward shield. All damage striking that shield simultaneously is considered as a single volley. If damage is scored from two (or three) of the three possible directions, the phaser directional restriction is modified and the volley is considered able to destroy any phaser firing in any direction from which the damage was scored. The rear shield covers the arcs of the normal #3, #4, and #5 shields. This operates in a similar (though of course opposite) manner to that of the forward shield. See (E11.354) for PPD damage.

EXAMPLE: Damage is scored on what would be the #1 and #2 shields of an interceptor. All of this damage is resolved against the unified forward shield. If any damage penetrates this shield, it could be scored against phasers that could be damaged if either or both of the #1 and #2 shields (but not the #3 shield) had been penetrated. See (D4.321) for the specific procedure.

(K3.44) DROPPING SHIELDS: Interceptors can drop either their forward or rear shield (or both) using the same procedure that ships would use to drop a single shield. An interceptor cannot drop part of a shield.

(K3.5) WEAPONS

(K3.51) OPERATION: Generally, the weapons on interceptors operate exactly as those on PFs. Those weapons with a range limit have the same limit as the PFs of the same empire.

(K3.52) SEEKING WEAPON CONTROL: Unless specified otherwise in their individual descriptions, interceptors can control a number of seeking weapons equal to their sensor rating. Each interceptor can fire drones from two of its drone racks each turn, at the appropriate rate for the rack type.

(K3.53) MINES: Interceptors do not carry mines or T-bombs.

(K3.54) PSEUDO-PLASMAS: Interceptors armed with plasma torps do not have PPTs. Otherwise same as PFs.

(K3.55) WEB: Tholian INTs are web spinners (G10.24); none had web generators.

(K3.56) CLOAK: Same as PFs (K1.56).

(K3.6) WARP BOOSTER PACKS

(K3.61) USE: Most interceptors were power deficient and quickly adopted the use of booster packs. (This would be on the second pre-PF turn of interceptor deployment.) These operate exactly as those on PFs, except (of course) that they are smaller.

(K3.62) DAMAGE: For damage purposes, there is no die roll. Every damage point scored on an engine with a booster pack produces a second point of damage to that engine. This second point is not scored until the volley has been completely resolved and is ignored if the entire engine (and pack) have already been destroyed.

(K3.7) ELECTRONIC WARFARE

(K3.71) ECCM: As with PFs, interceptors have two points of ECCM at no cost. These can be dropped to allow the maximum (D6.31) limit to be devoted to ECM. These points ARE under the limits of (D6.31), and this rule forms an exception to (D6.3142).

(K3.72) SWING POINTS: All interceptors have two points of electronic warfare that can be used for either ECM or ECCM (or one for each) without any energy cost. These must be designated during the Sensor Lock-on Phase.

(K3.73) POWERED EW: Interceptors can use their own power for additional ECM or ECCM or receive external or borrowed electronic warfare as any ship can. The EW points generated under (K3.71) and (K3.72) are included within the six-point self-generated limit (D6.31).

(K3.74) OTHER EW: Interceptors, being nimble ships, may receive additional ECM points (for purposes of enemy direct-fire weapons) from (E1.7) Small Target Modifiers. Orion INTs have additional EW points from the Orion stealth bonus, subject to (G15.8).

(K3.75) INTERCEPTOR SCOUTS (INS): On an experimental basis, some interceptors were modified with electronic warfare equipment. This is treated as an electronic warfare pod (J4.96) or (J11.21), although it is somewhat more complex due to the larger units. Two EW pods replace two weapons on one interceptor in some squadrons; the interceptor then lends EW as per (J4.965) or (J11.23). These were the largest "ships" that could use the EW pod system. These EW "pods" are destroyed by a weapons hit of the type of weapon they replaced. There is no BPV change. The replaced items on each ship are:

Federation.....photon and drone rack
Klingon .....disruptor and drone rack
Romulan, Gorn, ISC.....both plasma torpedoes
Kzinti.....both drone racks
Tholian.....disruptor and phaser-1
Orion.....both option mounts
Hydran.....both fusion beams
Lyran.....ph-2s to EWPs and disr to ph-2

Each of these EW-Interceptors thus have two EW pods.

The systems converted on the EW-Interceptors provide a guide for other player-created Interceptor versions.

(K3.8) FI-CON (INF) OPERATIONS

No interceptors were modified for this type of operation. These ships were too small and could only have carried two fighters. To experiment, replace the systems listed in (K3.75) with tractors with fighter mech-links and use (K1.8).

(K3.9) SURVIVAL PODS *(Optional)*

Interceptors are equipped with survival pods which operate in the same manner as those on PFs (K1.9). INTs and PFs can recover each other's pods. While interceptors do not have the formal tow-bar, they do have a docking hardpoint that can dock an escape pod only.

(K4.0) PF LEADERS

One fast patrol ship in each flotilla was a slightly larger "leader" variant known as a PFL or PF Leader. This ship had heavier shields, more power, and additional equipment (one tractor, one transporter, and one shuttlecraft). These are described in (R1.PF6); this section includes certain special rules.

(K4.1) SHUTTLECRAFT: The PF leader has a special mech-link that can hold an administrative shuttle. The link cannot hold a PF, fighter, or other special shuttle. The shuttle cannot be armed or loaded as a suicide shuttle, wild weasel, or scatter-pack by the PFL. The shuttle crew can move between the shuttle and the PFL via a special hatch. The shuttle is included in the cost of the PFL.

(K4.11) The shuttle could be loaded as a scatter-pack (but not SS or WW) by the PFT. If the shuttle is destroyed while docked to the PFL and loaded as an SP, there is no additional damage to the PFL. The PFL can control and establish targeting data for the SP.

(K4.12) When docked, the shuttlecraft is destroyed by a "shuttle" hit on the primary DAC or it may be chosen to take an "any" hit on the PF-DAC. Which DAC is used is determined by whether or not the PF is docked to a PFT; see (K2.41) and (K5.0).

(K4.13) The shuttle can have warp packs, but if these are dropped, the PFL cannot replace them.

(K4.14) The Klingon G1N (R3.PF6) carried an MRS shuttle (included in BPV) and was the only PF (other than a Fi-Con, or Mine Warfare PF) to carry a shuttle other than an admin shuttle.

(K4.2) BOARDING PARTIES: The PFL has two boarding parties and can use one of them offensively (i.e., transport it off of the ship). Two enemy boarding parties can board a PF leader. See (K1.33).

(K4.3) TRANSPORTER BOMBS: The PFL carries one transporter bomb and one dummy transporter bomb in a special external rack (costs extra). The PFL can drop or transport one (real or dummy) T-bomb per turn. See (M2.132).

The PFL could, theoretically, receive reload T-bombs (up to the limit of one real and one dummy bomb) via the cargo transfer rules (G25.0) from its PFT (physical transfer while docked; not via transporters or shuttles or from another PF). The "explosive ordnance" penalty (G25.3) does not apply to reloading the T-bomb on a PF Leader. The transfer loads the T-bomb directly into the "mine rack" on the PFL. These bombs come from the PFT's own supplies; there are no extra reloads ascribed to the PFL. A given PFL cannot receive a new T-bomb on the same turn in which it used one (or within eight impulses on two consecutive turns) and cannot use a given bomb on the same turn it received that bomb (or within eight impulses on two consecutive turns).

(K4.4) PFL DAMAGE: Because PF leaders are larger than standard PFs, they use a slightly different damage system than other PFs. When the first "weapon hit" of each category (A, B, or C) is scored on a PF leader on the chart in (K5.1), score it on the weapon shown in the chart in (K5.2). The second hit of that type (e.g., the second Weapon-B result) is scored on the Leader line at the bottom of the (K5.2) chart. Continue alternating in this manner within each of the three categories.

(K5.0) PF DAMAGE ALLOCATION

This special chart is used for PFs and Interceptors rather than the standard Damage Allocation Chart. This chart is NOT optional.

(K5.1) FAST PATROL SHIP DAMAGE CHART

DIE ROLL	DAMAGE					
	A	B	C	D	E	F
1	HULL	C WRP	L WRP	R WRP	ANY	EX DAM
2	HULL	L WRP	C WRP	IMP	ANY	EX DAM
3	HULL	R WRP	C WRP	IMP	ANY	EX DAM
4	HULL	BTTY	APR	BRDG	ANY	EX DAM
5	HULL	WPN-A	WPN-B	WPN-C	ANY	EX DAM
6	HULL	WPN-B	WPN-A	WPN-C	ANY	EX DAM

Definition of Terms:
C WRP = Center WRP Engine
L WRP = Left WRP Engine
R WRP = Right WRP Engine
IMP = Impulse Engine
APR = Auxiliary Power Reactor
BTTY = Battery
WPN-A = Weapon-A
WPN-B = Weapon-B
WPN-C = Weapon-C
EX DAM = Excess Damage
ANY = Any hit including Sensor, Scanner, or Damage Control, but not Bridge or Excess Damage. The Bridge may be hit if it is the only undestroyed box left except for Excess Damage.

(K5.2) WEAPON SPECIFICATION CHART

EMPIRE/PF	A	B	C
FEDERATION	Phot/Ph-3	Drone	Phaser-1
GORN	Plasma	Phaser-3	Phaser-1
HYDRAN	Fus/HB	Phaser-2	Phaser-G
ISC	Plasma	Phaser-3	Phaser-1
JINDARIAN	LRG	n/a	Phaser-1
KLINGON	Disr/ADD	Drone	Phaser-2
KZINTI	Drone	Ph-3/Disr	Phaser-1
LYRAN/LDR	Disr	Phaser-3	Phaser-2
ORION*	Option	Phaser-3	Phaser-1
ROM-CEN	Plasma	n/a	Phaser-1
ROM-StH	Plasma	Phaser-3	Phaser-1
SELTORIAN	PC	Phaser-3	Phaser-1
THOLIAN	Disr	Ph-3/Web	Phaser-1
VUDAR	Ion	Phaser-3	Phaser-1
WYN	Disr	Ph-3/Drone	Phaser-1
LEADER (K4.4)	Trans	Tractor	Shuttle

Variants: Special sensors, cargo, barracks, mine racks, tractors, mech-links are destroyed by hits on the systems that they replaced. An n/a result from this chart, when scored on the DAC, is treated as "no more of that system" hit and you proceed to the next column on the DAC.

* Tractor beams on standard Orion Buccaneer fast patrol ships are destroyed by "any" damage points.

(K6.0) PF ENGINE DEGRADATION *(Advanced)*

As is noted in (K0.0), the warp engines on PFs are as small as they are due to the lack of systems to flush the ionic charges that tend to build up. Due to their high power output, PF warp engines tend to build up these charges rather rapidly. Most PF missions are planned to use only 80% of the effective range of the PFs (i.e., of the time before the buildup of charges causes problems), but often a given mission is longer than planned, or the PFs suddenly find themselves in an unexpected battle at what should have been the end of their mission. These rules account for this problem. They are used ONLY when a published scenario calls for them, e.g., (SG16.0).

(K6.1) PROGRESSIVE DEGRADATION

(K6.11) USE: The PF Engine Degradation rules are used only when specified in a scenario. These rules will not apply to most missions, and most scenarios. Indeed, the average PF will begin a mission with a running total of several thousand points less than zero.
(K6.111) The scenario will specify the Engine Running Total (ERT) for each PF at the start of Turn #1. Generally, all PFs in a flotilla will have the same rating, but some scenarios may specify that one or more PFs are significantly older and more "worn out" than the others, and hence have reached this level more quickly.
(K6.112) This rule can be applied to PFs and Interceptors.

(K6.12) ENGINE RUNNING TOTAL: At the end of each turn during which the PF used its warp engines (for any purpose), roll one die for each PF subject to engine degradation and add the result to the ERT for that PF.
(K6.121) Roll separately for each PF, not for each PF engine.
(K6.122) This die roll is made in the Final Records Stage 8C after Orion engine damage.
(K6.123) In the event that a PF is in stasis on Impulse #32, the die roll will be made after it is released from stasis at the point before Energy Allocation is revised (G16.72).

(K6.13) DIE ROLL MODIFIERS may be applied in some cases. These are applied to each die roll, and are cumulative. If the modified die roll result is a negative number, the Engine Running Total will be reduced.

Warp Booster Packs dropped†	=	–2
Ace PF Crew	=	–1
Green PF Crew	=	+1

† Any use of the packs, even if they are destroyed (K1.64) during the turn, will prevent use of this bonus. Note that this bonus does not apply if the engines are above the danger level (K6.211).

(K6.14) ORION PFs roll two dice for each turn that the warp engines (and/or the packs) are doubled. Any modifiers apply to both die rolls independently, and both die rolls are added to the ERT.

EXAMPLE: An ace Orion PF crew doubles its warp engines. The player rolls two dice, getting a two and a five, which are modified to a one and a four. Without packs, this would be -1 and two.

(K6.15) OTHER EFFECTS: PFs which are subject to Engine Degradation are considered to be destroyed if they disengage from a scenario because they lack the range to reach another tender/base. Sublight disengagement, and being docked to or towed by a ship that disengages (not a PF subject to degradation), is permissible.

There are no other effects than those listed in this rule (K6.0). The fact that the engines of a given PF are degraded to some extent (even beyond the critical level) has no effect on cloak cost, fire control, nimble status, scout sensors, EW status, or any other factor. Terrain has no effect on the die rolls.

(K6.2) EFFECT OF DEGRADATION

(K6.21) DANGER LEVEL: When the Engine Running Total equals or exceeds 50, the engines have reached a critical level of ionic buildups. (What actually happens is that the on-board computers try to shut down the engines. If the player keeps operating them, it is assumed that the crew overrides the shut down command.) When this level is reached, the following things happen.
(K6.211) The warp booster packs (if any) are dropped immediately. Retaining them would cause the PF to burn up (K6.22) immediately. Additionally, the die roll modifier (K6.13) for not having packs does not apply to PFs with an ERT above the Danger Level.
(K6.212) The PF loses 1/5 of a point of power for every point that the cumulative Engine Running Total exceeds 50. (Interceptors lose 1/6) This applies to the remaining warp power. No engine boxes are destroyed by this; they simply don't deliver the power. (The power is being lost through burned out insulation, which is replaced when the charges are flushed.)
(K6.213) Orion PFs cannot double their warp engines.

(K6.22) CRITICAL LEVEL: If the cumulative Engine Running Total reaches or exceeds 65 (62 for Interceptors), the PF burns up (i.e., is destroyed, totally and immediately). There is no possibility of crew escape; exception (K8.4).
(K6.221) The burning (i.e., destruction) of the PF produces no (D5.0) explosion.
(K6.222) Victory points for PFs destroyed in this manner are doubled (for the enemy) to reflect the loss of an experienced crew and the lower morale of the PF force as a whole. This would not apply if the crew was rescued via (K8.4).

(K6.23) OTHER POWER SYSTEMS such as impulse, auxiliary power reactors, auxiliary warp reactors, and batteries are not affected by warp engine degradation.

(K6.3) RECOVERY FROM DEGRADATION

(K6.31) FLUSHING: PFTs can flush the ionic charges from PFs docked to their mech-links. All PF mech-links are capable of flushing ionic charges, in any type of terrain. Flushing does not require power to be expended. Flushing during a scenario does not relieve the PF of (K6.15); that can only be done between scenarios.

(K6.32) RATE: Each mech-link can reduce the Engine Running Total by three points per turn if the PF is docked for the entire turn. This is done during the same step as the die roll for cumulative degradation (K6.122). If the ERT is more than 50, only one point can be removed each turn. If launched again, the PF is treated at its new level and resumes die rolls (K6.12) until the end of the scenario, or until it lands again or is destroyed.

(K6.33) SELF-FLUSHING is not possible. PFs cannot flush their own engines. Shutting down the warp engines will prevent further die rolls (K6.12) but will not reduce the current Engine Running Total.

(K6.34) CAMPAIGNS: Degradation is fully recovered between scenarios of a campaign game unless the rules of the campaign make this impossible or limited.

(K6.4) COMPLETE EXAMPLE

Scenario (SG16.0) specifies that the PFs begin the scenario with an Engine Running Total of 35. PF #2, a very unlucky PF, rolls a five at the end of Turn #1 and a six at the end of Turn #2. Both of these are increased by +1 (K6.13) because the PF is flown by a green crew (K8.22). This provides an Engine Running Total of 48 at the end of Turn #2.

The PF should shut down its warp engines and allow the PFT to recover it (since continuing to operate the warp engines on Turn #3 will almost certainly boost the ERT to Danger Level), but the tactical situation is such that the PF must continue to operate. It continues in combat on Turn #3, but drops the warp booster packs (annoying the PFT captain, who has few spares available) to gain the -2 die roll modifier. At the end, the unlucky PF rolls a four, which is increased to five by crew status and reduced to three by the WBP modifier, resulting in an Engine Running Total of 51.

At the start of Turn #4, PF #2 is in trouble. It has been forced to drop its warp booster packs and has lost 1/5-point of warp power, dramatically slowing it down. Worse, the battle situation requires that PF #2 remain in operation to counter the drones approaching from an enemy scatter-pack. During Turn #4, PF #2 engages and destroys these drones, but is hit by one, which penetrates the shields and destroys (among other damage) one warp engine box. [Note that, as the packs were dropped, there is no (K1.63) die roll for increased damage.] At the end of Turn #4, the die roll is a three, which is modified to a four, for a total of 55.

At the start of Turn #5, PF #2 has problems. It has one down shield, has lost the hull boxes and one warp box, and has lost the equivalent of another warp box because of (K6.212) which specifies 1/5-point lost for each point over 50. It could operate at least one more turn without a chance of burning up, but mercifully the battle has ended, and PF #2 (which did not use its warp engines during the turn) was recovered during the last portion of Turn #5.

It will take the PFT five turns (K6.32) to reduce the ERT to 50, and seventeen more turns to reduce it to zero (actually, to -1). It can be reduced below zero and will reach fully-cleared status just in time for the next scenario of the campaign.

(K7.0) DEATH-RIDER PFs *(Optional)*

Death-Riders are unmanned suicide PFs, loaded with explosives, and not unlike the suicide freighters (R1.33) employed by most empires in their attacks on hostile bases. They were an outgrowth of the development of remote controls for minesweeping PFs (M8.33). Unlike the freighters, the higher speed and maneuverability of the PFs made it possible to send them after moving targets with some likelihood of getting close enough for the explosion to cause significant damage.

Death-Riders appeared in Y179 when they were used by Orion Pirates (Pharaoh's Cartel seems to have been the first, using interceptors) as part of their operations. Initially they provided quite a shock as it was thought the crews of the PFs were self-destructing to take their enemies (usually convoy escorts) with them. Analysis of the sensor records soon revealed what was truly happening.

The system was adapted by Y180 by the empires operating PFs at that time, and picked up by other empires as they began operating PFs themselves. Most PFs used for this mission were worn out hulls regarded as unsafe to continue in operation and uneconomical to further repair. There were always plenty of these available late in the War (most such being used as target drones for weapons training), although more than one Death-Rider was a new PF just out of the factory. The selected PF(s) would be packed with thionite charges, fitted with a simple control system, and sent on their way.

(K7.1) GENERAL CONDITIONS

(K7.11) DEFINITION: Death-Riders are unmanned suicide PFs, usually but not always launched before a scenario begins. Death-Riders are not seeking weapons, even if using (K7.212); they are not reported under (F3.34) and cannot be identified by labs, aegis, or probes (or in any way except boarding or by their actions). There is no BPV cost for converting a PF (or INT) to a Death-Rider; there is no economic BPV, i.e., they are purchased at their combat BPV. For victory conditions the opposing side counts them as a destroyed enemy units, whether or not they hit a target, if they are destroyed during the scenario. No crew is carried (or permitted) on a Death-Rider.

(K7.12) CONTROL OF DEATH-RIDERS: There were essentially two "types" of Death-Riders defined by their method of control.

Autonomous Death-Riders (K7.2) guide themselves to the target after being locked on course. Death-Riders that appeared as part of a PF flotilla used this method because PFs (with their limited command abilities) could not control Death-Riders in combat.

Controlled Death-Riders (K7.3) are controlled by a ship. (PFs cannot control them). They are guided to their targets, which can be selected in mid-battle (or even mid-turn) and changed at will. They also have a limited ability to fire some of their weapons.

(K7.13) FIRE CONTROL: In all cases, Death-Riders are assumed to always be operating their fire control (except when docked) and cannot switch to passive fire control.

(K7.14) NO DISTRACTION: Death-Riders, whether controlled or autonomous, cannot be distracted by wild weasels (J3.0) or scout functions [(G24.219), (G24.22), and (G24.23)]. The force of a Death-Rider's explosion is not reduced by electronic warfare (D6.36). Autonomous Death-Riders that are tractored and dragged off course (by either side) will not offset (F4.5) their target hex, but will continue to try to reach their designated target hex within their maneuver limits. The reference to (G24.219) refers to the fact that EW does not distract a Death-Rider as it would a seeking weapon.

(K7.15) STASIS AND DISPLACEMENT: The operation of stasis field generators (G16.0) and displacement devices (G18.0) can cause an effect on their targets known as "disrupted fire control" (D6.68). The effects of disrupted fire control depend on whether an affected Death-Rider was controlled or autonomous, and in the former case whether the controlling ship or the Death-Rider itself was affected. These devices can also cause a controlled Death-Rider to fall outside of the control range of the controlling ship (K7.31).

(K7.151) In the case of autonomous Death-Riders, disrupted fire control has no direct effect; however:

(K7.1511) An autonomous Death-Rider that has been in stasis will determine its programmed movement based on the number of impulses it was not in stasis. It can reallocate power under the provisions of (G16.7) when released if required.

(K7.1512) A displaced autonomous Death-Rider will continue to attempt to reach its target within its maneuver limits.

(K7.152) Controlled Death-Riders: if the Death-Rider is released from stasis, or displaced, but is still within the maximum control distance of its controlling ship, it will suffer the normal effects of disrupted fire control (D6.68) and will reallocate energy as required under (G16.7).

(K7.1521) If the controlled Death-Rider is displaced outside of the maximum control distance, or released from stasis outside of the maximum control distance, it will go inert (K7.7).

(K7.1522) If a controlled Death-Rider is outside the control distance of the ship that is controlling it as a result of the ship being displaced, the Death-Rider will go inert (K7.7).

(K7.153) If the controlling ship is placed in stasis, even for a single impulse, all Death-Riders controlled by that ship will go inert (K7.7).

If the controlling ship is displaced, it will retain control of any of its controlled Death-Riders that are still within the control distance [an exception to (D6.682)], but both the controlling ship AND the Death-Riders it controls will be under the restrictions of (D6.68).

(K7.16) EXPLOSION STRENGTH: Death-Riders explode with a strength of 35 damage points, but this explosion can only affect their target, not other units in the target's hex or in other hexes.

(K7.161) The force of this explosion is not reduced by any damage sustained by the PF short of its destruction.

(K7.162) If a Death-Rider blows up normally as a result of damage (D5.0), the explosion is treated as any non-Death-Rider PF (or INT) explosion. The thionite charges have no added effect.

(K7.163) A Death-Rider which detonates under (K7.16) does not also explode under (D5.0); it will only damage its target.

(K7.164) If the target is cloaked, (G13.37) applies. The cloak is not voided. Death-Riders, like Suicide Freighters, ignore EW.

(K7.165) The explosion strength can be voluntarily set (before the scenario) for a smaller value. Death-Riders with no explosives (used for deception) are called Ghost-Riders (K7.81).

(K7.17) PREPARATION: Death-Riders can only be prepared before the beginning of a scenario. Any type of interceptor or PF can be used as a Death-Rider. They cannot be prepared during a scenario, but special scenario rules might define that a given PF is already being prepared as a Death-Rider when the scenario begins unexpectedly, and what must be done to complete the preparation.

Death-Riders are difficult and dangerous to prepare and are never stored for possible use. They are created when a planned mission calls for them and used only in attacks.

(K7.171) A base can never have its own PFs prepared for use in "defending" the base unless allowed by a scenario rule.

(K7.172) Death-Riders will never appear in a chance encounter scenario, only in a planned and prepared attack.

(K7.173) No more than six Death-Riders can appear in any fleet.

(K7.174) Death-Riders need not carry their expendable munitions (drones, T-bombs, etc.); this might save BPV points.

(K7.18) INTERCEPTORS: Relatively few interceptors were used as Death-Riders, primarily because relatively few interceptors were built. Interceptor Death-Riders function as PF Death-Riders except:

(K7.181) The explosive charge is 25, not 35.

(K7.182) Only one weapon can be fired offensively, and only one can be fired defensively under (K7.34), not two of each.

(K7.183) Interceptors can never control Death-Riders.

(K7.19) PROHIBITION: No Death-Rider, whether controlled or autonomous, can perform any action not specifically allowed in this rules section. Examples of prohibited actions would include using its control space to identify a seeking weapon, launching a scatter-pack, and laying a T-bomb or NSM.

(K7.2) AUTONOMOUS DEATH-RIDERS

(K7.20) CONCEPT: Autonomous Death-Riders can only be targeted on stationary targets or units in orbit (P8.0). If the target leaves the hex (or its orbit), the Death-Rider will go inert (K7.7). They are brought under control of (or docked to) another unit to a release point within striking range (usually 1.5-2 million kilometers, well beyond the scope of a map) and released to their autonomous programming (K7.21). See (K7.322) for "very slow" targets.

(K7.201) Autonomous PFs might be controlled (up to their release point) by another ship or PF. They might accompany a fleet being sent to attack a base, or they might be released by a PFT as a "standoff" weapon. If launched (undocked) during a scenario, the launching ship must have a lock-on to the target at the point of guidance release.

(K7.202) Sometimes autonomous Death-Riders will appear as part of a flotilla. Because PFs cannot use (K7.3) to control Death-Riders during a scenario, this is the only way that an all-PF force can include Death-Riders. This was because the limited control equipment and the small crews of PFs (even leaders and scouts) were not able to maintain the command links to a Death-Rider in the heavy electronic environment of direct combat. In such cases, no more than half (round fractions down, and with a maximum of two) of the PFs in a flotilla can be autonomous Death-Riders.

NOTE: Theoretically, a PF variant could be built with auxiliary control boxes replacing the heavy weapons. Such a unit would be able to use (K7.3) in combat to control Death-Riders. Such a unit does not, at this time, exist within the game.

(K7.21) PLOTTING: Autonomous Death-Riders can have up to ten turns of instructions programmed into them before release. These instructions must be written and are subject to review by the opposing player/side when the scenario is over. These instructions cannot violate any of the restrictions outlined in (K7.6) below and will be carried out within the limits of (K7.51), but the PF can perform any function within the limits of those restrictions.

(K7.211) Note specifically that this does NOT use (C1.32), and that the autonomous Death-Rider can follow any course at the player's discretion each turn, but that the unit's energy allocation (K7.51) and target are fixed and not subject to change other than by boarding (K7.4) or going inert (K7.7).

(K7.212) As part of the programming, an Autonomous Death-Rider can convert (irrevocably) to seeking (C1.322) mode at any point, but ONLY against an unmoving or orbiting target. This target must be set before the Death-Rider is released and cannot thereafter be changed. This is often done near the end of the programmed run in case the Death-Rider has been diverted by some means. Autonomous Death-Riders are self-guiding, so long as they have a lock-on to the target. An autonomous Death-Rider does not require a lock-on until it goes into seeking weapon mode. If lock-on is lost, the Death-Rider goes inert (K7.7). If targeted on an orbiting (P8.0) target, and that target leaves orbit, target tracking is lost and the Death-Rider goes inert (K7.7).

(K7.22) RELEASE: Autonomous Death-Riders can only be released to their own guidance in the Sensor Lock-On Phase after the Attempt to Reacquire Lock-On Step. Once released, there is no way to re-establish control and the Death-Rider will follow its programmed instructions unless inactivated by boarding (K7.4), rendered inert (K7.7) by some terrain variable (K7.64), or destroyed.

(K7.23) EXPLOSION IMPULSE: Autonomous Death-Riders will explode as a seeking weapon upon entering the target hex unless deactivated or rendered inert (K7.7). If the Death-Rider has not reached its target at the end of ten turns, it will go inert (K7.7).

(K7.24) RESOLUTION: The explosion takes place during the Movement Segment (6A) of the Impulse Procedure in the Damage During Movement Stage (6A3). The damage of the exploding Death-Rider is resolved in the Resolve Damage from Seeking Weapons Step.

EXAMPLE: If a Death-Rider enters a Radius Zero ESG field generated in the hex of its target and at the same time triggers a mine as a result of its movement, the Death-Rider will first contact the ESG field and, if destroyed by the ESG field, would explode as a normal PF doing only eight points of damage. If the ESG field did not destroy the Death-Rider, the Death-Rider will explode doing the full amount of damage it was programmed to do in (K7.16). While its movement will have triggered the mine causing the mine to trigger (detonate), the Death-Rider will not sustain any damage from the mine's explosion since it explodes before the mine does, although anything else in the mine's explosion radius will be damaged (by the mine).

(K7.25) DELAYED ENTRY: In scenarios where Autonomous Death-Riders will arrive on the map, special scenario instructions will define the number of turns that have elapsed since it was released and began its programmed course, which will define the number of turns remaining which must be programmed.

(K7.26) WEAPONS: Autonomous Death-Riders cannot operate any weapon system.

(K7.27) CONTROL: Once released to its own guidance, there is no way to resume control of an autonomous Death-Rider during a scenario. Controlled Death-Riders (K7.3) can be released to autonomous control under (K7.22) during a scenario, but control cannot be regained. Inert Death-Riders (K7.7) are an exception in some cases, as they could be boarded to regain some control.

(K7.3) CONTROLLED DEATH-RIDERS

(K7.30) REQUIREMENTS: Death-Riders can be controlled in combat and "flown" into their target's hex. The Death-Rider can be maneuvered freely (within the rules).
(K7.301) Controlled Death-Riders can be (but do not have to be) assigned a "target" which they will attempt to approach and damage with their thionite charge. This target assignment can be changed by the controlling unit in the Lock-On Stage (6B3) of any impulse. A controlled Death-Rider is not required to "pursue" its assigned target. This assignment is made in writing and is revealed when the Death-Rider detonates (K7.37).
(K7.302) A controlled Death-Rider can be commanded to go inert (K7.7), and/or to shut down its internal defense systems (K7.4). The systems cannot be reactivated during the scenario.

(K7.31) DISTANCE: Death-Riders that are controlled must be within a maximum of ten hexes of the designated controlling ship at all times or they become uncontrolled and go inert (K7.7).

(K7.32) TRANSFER: Control of Death-Riders cannot be transferred during a scenario, except that the Death-Rider may be commanded to go autonomous under the conditions and limitations of (K7.2).
(K7.321) Outside of scenarios, or before an enemy force arrives on the board, control of a given Death-Rider may be transferred between ships (within ten hexes of each other and the Death-Rider), but this can never be done if any enemy ship is defined as being within 75 hexes (100 for enemy scouts not including scout PFs which count as ships, and 50 hexes for enemy PFs) of the Death-Rider itself.
(K7.322) A controlled Death-Rider could be released to autonomous control and targeted on a ship which is not moving, or which is moving very slowly; see (K7.20). Getting a hit in such cases is difficult as the target might move away. However, since Death-Riders are released after all ships have announced their speeds for the coming turn, the controlling ship will know where the target will be for at least a brief period. The target could, of course, use reserve power to move suddenly, have a speed change plotted, could be towed out of the hex by another unit, or could tractor the PF.

(K7.33) CONTROLLING UNIT: Each Death-Rider must be controlled from a specific single ship. This ship and the Death-Riders it is controlling must be designated in writing before the scenario begins.
(K7.331) A given ship can control a maximum of two Death-Riders for each auxiliary control box it has. [Exception: Orion Pirates (K7.36).] Players should number the auxiliary control boxes in order to assign PFs to them. No single ship can control more than six Death-Riders. Each Death-Rider under control requires a seeking weapon control channel (K7.35). An auxiliary control box used to control Death-Riders cannot simultaneously be used to control the ship (G2.2).
(K7.332) If a given auxiliary control box is destroyed, any Death-Riders controlled by that box will become inert (K7.7).
(K7.333) Ships and units without auxiliary control boxes cannot control Death-Riders; exception: Orion Pirates (K7.36).
(K7.334) The controlling ship must have (full-power) active fire control and a lock-on to the Death-Riders at all times, or the controlled Death-Riders will go inert (K7.7). A lock-on to the target is required at the instant of impact (K7.371).

(K7.34) WEAPONS: Controlled Death-Riders have a limited weapons capability. A maximum of two weapons may be designated for use in offensive mode within the restrictions outlined below, and two additional weapons may be designated as "defensive." These weapons are selected before the PF is launched; once the two offensive and two defensive weapons are selected (this must be done in writing before the scenario begins), they cannot be changed.
(K7.341) The two "offensive" weapons can be direct-fire or seeking weapons. The launching of seeking weapons or firing of direct-fire weapons in offensive mode are not mutually exclusive. A given Death-Rider could be set to fire one direct-fire weapon and launch one seeking weapon, or two of either, but not two of each.

(K7.3411) A controlled Death-Rider can launch a maximum of two seeking weapons offensively each turn at a target within twenty hexes of the Death-Rider within the restrictions of the specific weapon and (K7.34); after launching, the weapons can be controlled normally (e.g., to Range 35). Exception: no Death-Rider can launch multiple warhead drones or scatter-pack shuttles.

Control of the seeking weapons may be transferred from the Death-Rider to any other eligible unit, but the Death-Rider can only control seeking weapons it launched and cannot accept control of other seeking weapons, including seeking weapons it launched previously for which control was transferred.

Plasma torpedoes may be fired in either seeking or bolt modes, and the launchers can be changed between the two modes normally.

A type-C drone rack can launch two drones per turn (and type-E can launch four). The rack itself counts as one "weapon" within the restrictions of (K7.341) even though it could theoretically launch more than one "weapon" during the turn.

(K7.3412) A controlled Death-Rider can fire a maximum of two direct-fire weapons each turn at targets a maximum of ten hexes away within the normal restrictions of the weapons.

(K7.342) A maximum of two additional weapons may be selected to operate in "defensive" mode. These weapons are limited to a maximum range of four hexes and can only fire at size 6 or smaller targets, including drones, fighters, shuttles, or plasma torpedoes. Gatlings and ADDs count as one weapon regardless of how often they fire.
(K7.343) Death-Riders cannot fire at mines. A Death-Rider (even one based on a mine-warfare PF) cannot be used to sweep mines.
(K7.344) While the Death-Rider itself cannot use ECCM (K7.61), its direct-fire and seeking weapons ARE affected normally by rules for electronic warfare (D6.3), small targets (E1.7), etc. Seeking weapons launched by a Death-Rider with their own ECCM (e.g., plasma torpedoes and ATG drones) will have the benefit of their own ECCM.

(K7.35) CONTROL CHANNELS: Each Death-Rider controlled by a given ship counts against its ability to control seeking weapons. See (K7.36) for special restrictions on Orion pirate ships.
(K7.351) In the case of a ship only able to control three seeking weapons [see (F3.211), such as a Hydran Ranger], the total of its Aux Con (two boxes in the case of a Ranger) will provide the limit on the number of Death-Riders it can control (a Ranger can control four Death-Riders).
(K7.352) In the case of a ship that has more than three Aux Con boxes (such as a Klingon Battle Tug which has four), the absolute limit of six Death-Riders controlled by any single ship (K7.33) will take precedence.

(K7.36) ORIONS: The Orions have not set up their ships with multiple command facilities to control large actions. Their redundant command systems are literally intended only to allow the ship to continue to function in the event of damage. For this reason, the Orions must modify their ships when preparing to undertake a Death-Rider mission. (This also applies to WYN-owned ships of Orion design.)
(K7.361) In order for any Orion ship to control more than three Death-Riders, it must have OAKDISC.
(K7.362) In addition, the Orion must establish a specific control station for each individual Death-Rider a ship will control in its cargo bay, but no ship can control more than six Death-Riders (K7.33).
(K7.363) Each cargo box on an Orion ship can be modified to control one Death-Rider. Each box must be matched to a specific Death-Rider, and if that cargo box is destroyed, the Death-Rider it was controlling will go inert (K7.7). The cost of this modification is five points per box.
(K7.364) Alternatively, an Orion ship might install an auxiliary control box in one of its option mounts and use (K7.331). The BPV adjustment is zero, but this cannot be done in wing mounts.

(K7.37) TRIGGERING: Controlled Death-Riders will detonate upon entering the hex of their assigned target (K7.301) as if they were a seeking weapon (despite the fact that they are not required to actually "seek" that target).
(K7.371) If the controlling unit does not have a lock-on to the target, the Death-Rider will not detonate.
(K7.372) If the Death-Rider is in the same hex as its target when that target is assigned, it will not explode until the Voluntary Movement Stage (6A2) of the next impulse (assuming that it is still in the target hex, or has followed the target to a new hex).

(K7.38) LAUNCH: Controlled Death-Riders can be launched in the same manner as a normal PF at any time and under the same restrictions (K2.32). Controlled Death-Riders launched during a scenario can ONLY be controlled by the ship that launched them. Note that the "ship" might be a base on a planet, and that controlled Death-Rider PFs can take off from planets (K7.62).

(K7.4) BOARDING

Death-Riders, both controlled and autonomous, can be boarded under the conditions of normal PFs (K1.33).

(K7.41) BOARDING PARTIES transported aboard a Death-Rider must immediately roll to see if they survived the internal defense systems (which are set to engage any entering personnel, friendly or enemy). Each boarding party rolls individually, but only one BP can board a Death-Rider at a time (K1.33).

Type of BP	Poor; Militia	Normal	Outstanding; Commando
BP Survives	1–2	1–3	1–4
BP Destroyed	3–6	4–6	5–6

(K7.411) Non-boarding party crew units must be converted to militia (D15.83) before they can be used for this purpose.
(K7.412) Legendary Marine Majors may be used for this purpose (with or without a boarding party). They would roll on the "outstanding/commando" column. A boarding party accompanying the major uses his result on the chart.

(K7.42) DEACTIVATION: Once aboard, the boarding party (friendly or enemy) can roll in the Self-Destruction Phase of any subsequent turn to shut down the Death-Rider systems on the following table:

Type of BP	Poor; Militia	Normal	Outstanding; Commando
DR Deactivated	1	1	1–2
Roll again next turn	2	2–3	3–4
BP Destroyed	3–6	4–6	5–6

(K7.421) In the case of controlled Death-Riders, the controlling ship can shut down the entire Death-Rider system (K7.302), allowing the PF to be boarded by friendly personnel and flown away. Of course, if the system is shut down, the enemy could also board it.
(K7.422) Non-boarding party crew units must be converted to militia (D15.83) before they can be used for this purpose.
(K7.423) Some legendary officers, if they accompany a boarding party, can adjust the die roll by –1. These include: Captain, Engineer, Weapons Officer.
(K7.424) A Legendary Major functions as a commando boarding party (G22.54), but if he accompanies a boarding party, only one (the BP or the Major) can attempt to deactivate the system each turn, and the one making the attempt suffers the result.
(K7.425) Legendary officers "destroyed" by the procedure roll another die. On a die roll of one-to-three, they are killed; on a die roll of four-to-six, they are treated as "disabled" (G22.134).

(K7.43) SUBSEQUENT ACTIONS: Once a Death-Rider has been deactivated or shut down, it can be operated within certain restrictions. This rule takes precedence over all other rules applying to Death-Riders when it comes into force.
(K7.431) Death-Riders that have been deactivated or shut down can be operated as normal PFs under the provisions of (D7.51), (D7.52), (D7.53), (D7.54) [except (D7.542)], and (D7.55).
(K7.432) During this period, the detonation system is inactive, and the PF will only explode as a normal PF, and only if destroyed. It cannot ram ships.
(K7.433) Whether the PF is being operated by its own side or an enemy, it is treated under the above listed rules until it has been returned to a PFT (not a casual PFT) between scenarios.

(K7.5) ENERGY ALLOCATION

PFs in Death-Rider mode are limited in their ability to allocate energy as defined by the following rules.

(K7.51) AUTONOMOUS: The general concept is that while Energy Allocation for an Autonomous Death-Rider must be done each turn (in order to account for the changes in available power), the owner must make certain decisions and set certain priorities before launch. These decisions and priorities will be so restrictive as to create virtually an "automatic" method of Energy Allocation for the Death-Rider.
(K7.511) Energy must be allocated that is sufficient to maintain the programmed speed of the PF for that turn.
(K7.512) Once the above is accomplished, energy must be allocated to maintain the shields. This energy will be provided even if all shield boxes on all shields have been destroyed.
(K7.513) If the battery is empty but still undestroyed, it will be recharged.
(K7.514) Power may be allocated to negative tractor if this was programmed before launch.
(K7.515) Power may be allocated for shield reinforcement if this was programmed before launch.
(K7.516) Power may be allocated to ECM if this was programmed before launch.
(K7.517) Power for ECM, negative tractor, and shield reinforcement may be defined by turns (e.g., a different amount on Turn #3 than on Turn #4), but any system above it in the list takes precedence in the use of any remaining power, e.g., if only enough power remained to allow the PF to move at the programmed speed or less, all power will be used for that function and no other function.
(K7.518) EXAMPLE: A Death-Rider is released to autonomous control on Turn #6. It has a programmed run of five turns (including the turn of release) to strike its target which is 151 hexes away when released and will then convert to seeking mode. The PF is set to move at a speed of 31. (Players are reminded that this autonomous

Death-Rider is not launching from a tender, but is already in space and moving and has been released to autonomous control.)

The PF has fifteen points of power available (includes packs). To move Speed 31 requires seven points, and another point is needed to operate the shields. The programmer designates that the PF will use four points (combined with the PF's normal two swing points) for six points of ECM and the remaining three points of power for shield reinforcement for the first three turns. On the third turn, the PF is struck by 24 damage points resulting in a shield penetration (fifteen box shield plus four points of reinforcement [the battery automatically drained to provide an additional point of protection]) of five points of damage. This destroyed the hull (three hits), a weapon (immaterial), and damaged one of the warp engines. The resulting (K1.63) die roll resulted in three total engine boxes being lost.

On the fourth turn, the programmer had intended to slow to Speed 30 and otherwise continue as before. However the lost power means that only one will be available for ECM as the PF has only twelve points of power now available, of which six must be used for a speed of 30, one to operate the shields, three for shield reinforcement, and one to recharge the battery, leaving one for ECM. However, no further damage hit the Death-Rider on this turn.

On the fifth turn, the PF must continue the programming, but for this turn the operator designated that it would switch all shield reinforcement and EW energy into negative tractor to try to keep the enemy from stopping the PF with a tractor beam. (It is NOT mandatory, of course, to switch all the energy, but the unit will have to first satisfy the demand for negative tractor power before it can allocate any planned power for shield reinforcement or ECM.) The PF still has twelve points of power and allocates six for movement (if it was close enough, less might be allocated for movement with a planned mid-turn speed change to slow it after it reaches the target allowing more power for other uses), one for shields, and the remaining five for negative tractor. The battery is charged and will function to block damage with its single point. Note that the swing points will continue to generate two points of ECM for no power cost through the entire period. This programming is continued for the sixth through tenth turns of flight, but the PF will have been destroyed (one way or another) before that time expires.

(K7.52) CONTROLLED: Energy is allocated for controlled Death-Riders normally (i.e., at the discretion of the owning player), except as restricted by the rules, e.g., the unit cannot perform a High Energy Turn, Erratic Maneuvers, or various other proscribed functions, so power allocated to those functions would be wasted.

A controlled Death-Rider can allocate power to charge all of its phaser capacitors, but can only fire a maximum of four phasers in any given turn (two in offensive mode and two in defensive mode). If it was only going to fire one phaser a turn, it could still fully charge its phaser capacitors in order to be able to fire the phaser over several turns without recharging it later when less power might be available.

(K7.6) OPERATING CONDITIONS

The command link to a controlled PF, and the limited control exercised by the systems on an autonomous Death-Rider, provides a number of restrictions on the performance of these units.

(K7.61) LIMITATIONS: Death-Riders, whether controlled or autonomous, cannot: use quick reverse (C3.6), perform High Energy Turns (C6.0), disengage by sublight evasion (C7.3), use Erratic Maneuvers (C10.0), do unplotted mid-turn speed changes (C12.24), dock by (C13.0) or (K2.31) including as a pinwheel (C14.0), use hidden deployment (D20.0), generate ECCM or use their own built-in ECCM [(D6.3) and (K1.71), although this will be reported as active until weapons actually fire], repair damage using any type of repair system [(D9.0) or (D14.0)], gather information (G4.0) or intelligence (D17.0), guide seeking weapons (F3.0) that they did not launch themselves (K7.3411), operate transporters (G8.0) or tractors (G7.0) [other than negative tractor (G7.35)], cloak (G13.0), double warp engines (G15.22), use any scout functions (G24.0), receive lent EW (G24.21), use reserve power for any function except reinforcing shields (H7.34), launch or recover shuttles (J1.0), use tow bars (K1.25), drop warp packs (K1.62), lay [(M2.0), (M3.0), or (M9.0)] or detect (M7.0) or sweep (M8.0) mines, land on planets (P2.4) or large asteroids (P3.42), follow another unit through an asteroid hex (P3.23), or fire to clear a path (P3.25).

(K7.62) CAPABILITIES: Death-Riders can: Turn (C3.1), move in reverse (C3.5), side-slip (C4.0), use Tactical Maneuvers (C5.0), disengage by acceleration (C7.1) or separation (C7.2) if commanded to do so by the controlling ship, emergency decelerate (C8.0), change speed (C12.0) (plotted only), undock [(C13.0) and (K2.32)] or take off (P2.412) (controlled only), raise (D3.3) or drop (D3.5) or reinforce (D3.34) its shields, self-destruct (D5.0) (indeed, this is the whole point), use reserve power only for shield reinforcement (H7.34), use atmospheric flight (P2.8), enter or break orbit (P8.0), and be followed by another ship or a piloted shuttle through an asteroid hex (P3.23).

(K7.63) NIMBLE: While PFs are nimble units, Death-Riders lose some of this benefit.

(K7.631) Death-Riders are considered non-nimble units for purposes of avoiding collisions with small moons (P2.231), passing through asteroid (P3.221) or ring (P2.223) hexes, and mid turn speed changes.

(K7.632) Some functions (e.g., HET) are prohibited to Death-Riders.

(K7.633) In the event that movement on the current impulse will bring a Death-Rider into contact with its target, AND if that target is, itself, nimble, the Death-Rider must be revealed as such. For purposes of that impulse, the Death-Rider in question must move first among the nimble units. If the Death-Rider enters the target hex and the target "simultaneously" leaves that hex, the Death-Rider does NOT trigger.

EXAMPLE: A Death-Rider is targeted on an Orion CR. On Impulse #11 the CR moves into Hex 3708, heading A. Its turn and side slip modes are satisfied. The Death-Rider moves into hex 3707, heading D. Its turn and side slip modes are also satisfied. Both units will move on the next impulse (the Orion is moving Speed 19, and the Death-Rider has a speed of 24). Normally, as both ships are nimble, the Orion ship will have to move first on the next impulse. However, the Death-Rider player must now announce that his PF is a Death-Rider, and it must move before the CR on Impulse #12. The Orion observes that the Death-Rider moves into his hex (3708). Under the provisions of (K7.633), the Death-Rider will not explode if he can leave the hex, and realizing the limited maneuverability of a Death-Rider, the Orion CR continues straight ahead. [The result is that the CR has managed to evade the Death-Rider, though nominally in this case it was a head-on collision (F2.24). This is because PFs though nimble are simply not as nimble as fighters or actual seeking weapons.] He knows that the Death-Rider will attempt to turn and pursue him, and on Impulse #14 he observes it turning into hex 3608 heading E. When the CR is next scheduled to move, it turns into hex 3806 heading B to gain maximum separation and time to deal with this threat pursuing him. Note specifically that if the Death-Rider had entered 3708 from 3709 the CR could have done an HET and entered 3709, evading the impact.

(K7.64) TERRAIN: Some terrain types exert additional restrictions on Death-Riders; these are as follows:

(K7.641) Death-Riders cannot operate within ten hexes of a black hole (P4.0), pulsar (P5.0), or white dwarf (P10.5) for a variety of reasons. They cannot operate within a nebula at all (P6.0) or in the vicinity of sunspot activity (P11.0) [exception, they function normally if both the Death-Rider and the controlling ship are within the same shadow for as long as they remain in the shadow (P11.5)], or in an ion storm (P14.0). If a Death-Rider enters any of the above areas, it will become inert (K7.7).

(K7.642) Death-Riders carried by ships through the WYN Radiation Zone (P7.0) cannot be released until Turn #4, and then only if the launching ship has a valid lock-on. They cannot be launched or released in the zone. If the Death-Rider fails to gain its own lock-on when its fire-control becomes active after release, it will go inert (K7.7).

(K7.643) Novas (P12.0) affect Death-Riders within their rules (e.g., a Death-Rider would roll to evade an asteroid hex as a non-nimble unit and would cease to operate if it entered the nebula part of the blast and be destroyed shortly thereafter).

(K7.644) Gravity waves (P9.0) and heat zones (P10.0) [including those generated by a white dwarf (P10.5)] and dust clouds (P13.0) affect Death-Riders normally (e.g., as PFs). Death-Riders can operate in radiation zones (P15.0) and near neutron stars (P15.5) but must be within five hexes of a controlling unit (if there is one) at all times or they go inert (K7.7).

(K7.7) INERT DEATH-RIDERS

Various occurrences defined in the above rules may cause a Death-Rider to go inert.

(K7.71) ACTIONS: Should a Death-Rider be required to go inert, the PF will immediately perform the following:

Execute an emergency deceleration and stop moving (it could be moved by other effects, such as tractors or black holes) with all shields up and all available power in shield reinforcement until it is destroyed, unless boarded and flown away or tractored and dragged away. If still under control, it can be ordered to drop one or more shields, any general shield reinforcement will be dropped at the same time as the shields in this case..

(K7.72) INTERNAL DEFENSE: The internal defense systems (K7.4) of Death-Riders which have gone inert are shut down to facilitate boarding by friendly personnel. Note that, under (K7.302), a Death-Rider could have been ordered to go inert while leaving the defenses active.

(K7.73) TIME LIMIT: If an inert Death-Rider is not boarded within five turns (even if dragged away by tractor beam), it will self-destruct as a normal PF during the Self-Destruction Phase of the SIXTH turn. The turn the Death-Rider went inert, even if on Impulse #32, counts as the first turn in this five-turn period. Scenarios will be extended to account for any inert Death-Riders whose fate is still to be determined.

(K7.74) CAPTURE: If boarded by an enemy boarding party, they will roll normally under (D7.7) to prevent self-destruction, except that the PF will not actually self-destruct until the Self-Destruction Phase of the sixth turn that the Death-Rider went inert after the boarding party makes a final attempt to abort it.

(K7.8) DECEPTION

Confusing the enemy as to which PFs are Death-Riders, and which are normal PFs, can enhance the chance that the actual Death-Riders will reach their targets.

(K7.81) GHOST-RIDERS: Standard PFs can be prepared as "Ghost-Riders," essentially Death-Riders without the thionite charges. These operate as Death-Riders except that controlled Ghost-Riders cannot be commanded to explode and autonomous Ghost-Riders will not detonate on reaching their target.
(K7.811) The only way to identify a Ghost-Rider as such is to physically board it. Tactical intelligence level M will reveal that it is unmanned, but an unmanned PF could be a Death-Rider, Ghost-Rider, or Minesweeper-PF (among other things).
(K7.812) Autonomous Ghost-Riders can only be set to seek a hex, not a target, and will go inert when they reach it.
(K7.813) The combat BPV is reduced by ten.

(K7.82) MANNED DECEPTION: A player can voluntarily move some or all of his manned PFs under the restrictions of controlled or autonomous Death-Riders to conceal as long as possible from his opponent which PFs are Death-Riders and which are not.
(K7.821) PFs pretending to be Death-Riders can voluntarily move before all other nimble units; see (K7.633).
(K7.822) The performance of any function which is prohibited to an actual Death-Rider reveals that a given PF is not a Death-Rider.

(K8.0) CREW QUALITY *(Optional)*

Like all men (or whatever), the crews of PFs develop varying levels of skill. Most crews start out as "green" and, if they survive, progress to "good." A very few progress to be "ace" quality. These rules are very similar to those for fighter pilots (J6.0). PFs do not use the crew system in (G21.0) as their crews are too small.

(K8.1) DETERMINATION

(K8.11) PROCEDURE: The quality of PF crews may be specified by the scenario or may be determined by die roll. If determined by die roll, roll once for each PF and consult the chart below:

Die Roll	Quality
1, 2	Green
3, 4, 5	Good
6	Ace

(K8.12) MODIFIERS: The die roll may be modified by various factors, including (G21.242) and (G21.142).

(K8.13) REASSIGNMENT: After rolling for the quality of all PF crews, if the crew of a scout or leader PF is "green," exchange it with a "ace" or "good" crew in another PF of the same flotilla. If this is impossible, see (K8.212).

(K8.14) UNITS: The crew quality rating only applies to one crew unit (the bridge crew). This affects transfers, survival, etc.

(K8.2) EFFECT OF PILOT QUALITY

(K8.21) GOOD CREWS operate normally in all respects; they have none of the quality-related modifiers listed below.
(K8.211) If not using PF crew quality, all crews are good.
(K8.212) Only good crews (not green) can fly a scout or leader PF (or a G1N). A green crew could fly one, but none of the electronic systems would function on a scout PF and none of the additional "leader" systems (anything beyond a normal PF of that type) would function on a PFL. Ace PF crews can fly a PFS but this will not improve its electronic warfare abilities (K8.23).

(K8.22) GREEN CREWS lose one point of energy (due to inefficiency); this is ignored after dropping their warp booster packs. The speed brackets for green PF Turn Modes are decreased by one. For example, they have a Turn Mode of one at speeds of two-to-seven rather than two-to-eight. See (D21.56) for modifiers when escaping catastrophic damage.
(K8.221) When green PFs fire direct-fire weapons, the target gains one free point of ECM. This is above the normal (D6.3) limits.
(K8.222) Their cost for Erratic Maneuvers is 6/5 points per turn.
(K8.223) Green PF crews cannot use Emergency Damage Repair (D14.32).

(K8.23) ACE CREWS gain one point of energy (due to increased efficiency). The speed brackets for ace PF Turn Modes are increased by one. For example, they have a Turn Mode of one at speeds of two-to-nine rather than two-to-eight. See (D21.56) for modifiers when escaping catastrophic damage. Ace crews do not improve the EW abilities of a PFS.
(K8.231) When ace PFs fire direct-fire weapons, they gain one free point of ECCM. This is above the normal (D6.3) limits.
(K8.232) An ace crew can use Erratic Maneuvers without cost. PFs, even ace PFs, cannot launch seeking weapons while performing EM; see (C10.51).
(K8.233) An ace crew can voluntarily ignore the benefits to avoid detection.
(K8.234) Ace PF crews can use Emergency Damage Repair twice (D14.32).

(K8.24) BPV: Crew quality affects the BPV of PFs; see Annex #6A.

(K8.3) CAMPAIGN RECORD KEEPING

Players may, at their option, use this system to keep track of PF crews on an individual basis.

(K8.31) EXPERIENCE POINTS: In campaigns, all new PF crews enter as green and (assuming that they survive long enough) progress to good and eventually ace by accumulating experience points. These are received for various activities as follows:

Points	Activity
1	Participate in one qualified sortie*
1	Hit enemy unit with any weapon†
2	Score internal damage on a ship (not INT or PF)†
4	Fire the last shot (or guide the seeking weapon) which destroys a ship.†
1	Destroy enemy fighter with seeking weapon†
2	Destroy enemy fighter with direct-fire weapon†
3	Destroy enemy PF with seeking weapon† ‡
5	Destroy enemy PF with direct-fire weapon† ‡
1	Return from sortie with damaged PF §
2	Return from sortie with crippled PF §

Except where noted, a PF crew can score points for several of the above in a given sortie.

* One qualified sortie is defined as launching, moving to within ten hexes of an enemy unit, firing weapons at an enemy unit, and landing on (or the crew being transported aboard or otherwise rescued by) a friendly unit. A non-qualified sortie is one which does not meet all of the requirements. A non-qualified sortie does not score a "sortie experience" point but does "reset the clock" for the † events.

† Only one of these scores can be earned by fire against a single target during a given sortie. Use the one with the highest score. A two-point bonus is added for destroying a PFS or PFL in addition to the points shown on the chart. If multiple units can claim a "kill" bonus, none receive it.

§ Only one of these can be scored for a given sortie, and only if the PF is actually landed on board of a ship or base.

‡ PFs score one point less if the target is an INT; INTs score these points if the target is an INT and one point more if a PF.

(K8.32) PROMOTION: Crews accumulate points to earn promotion to a higher status.

(K8.321) A green crew becomes good when it has received ten points.

(K8.322) A good crew becomes ace when it has received 50 points (not counting the ten points needed to become good, but including any points over ten earned on missions while green).

(K8.323) Promotion takes effect at the end of the scenario. If a pilot who earned promotion is lost before it takes effect, he does not have the benefits of the higher rating.

(K8.33) TRANSFER: Green crews cannot transfer between different PF versions or variants. Each crew accumulates points to advance from good to ace independently for each variant of PF it flies (but versions of the same variant continue to count). A crew that is an ace in any combat variant remains an ace if assigned to a PFS, but only retains that status in a PFL if it is the leader version of their combat variant. A given crew, for example, might be an ace in a G1 (or G1L) but have only twelve points toward that status in a G1B. This status is not affected by refits of the PF (e.g., shield refit).

Changing modules (K2.38) is not a type-transfer.

(K8.34) TRAINING: During a campaign, crews held out of a six-month turn are presumed to be undergoing intensive training and gain one-to-six points (roll one die) of experience. Good crews with twenty or more points toward ace status cannot be sent to training.

(K8.35) BEGINNING A CAMPAIGN: When beginning a campaign, it would be unrealistic to assume that all crews are green. Players may assume that a typical flotilla of six PFs includes one ace crew, three good crews, and two green crews. Alternatively, roll for each crew as per (K8.11).

For each of the good crews, roll two dice and give them this many experience points toward ace level. For each green crew, roll one die and give them this number of points toward good. Assign all crews to a PF before rolling for this experience.

(K8.4) LEGENDARY ACE CREWS

(K8.41) DETERMINATION: Whenever a crew becomes an ace, roll one die. If the result is a six, the crew is "legendary".

(K8.42) BENEFIT: A legendary ace crew is treated as an ace except for one additional benefit: even if their PF is destroyed or captured in combat, they will somehow manage to almost always return to the nearest friendly unit at the end of every scenario. The precise circumstances are determined by die roll. This chart is used even if the survival pod was destroyed on the map during the scenario.

DIE ROLL	FATE
2	Return in captured police ship.
3	Return in captured small freighter.
4	Return in captured PF (or two Federation A-20s and an HTS shuttle).
5	Return in stolen shuttlecraft.
6	Return in their own badly damaged PF.
7	Their rescue pod is picked up.
8	Their rescue pod is picked up, but their injuries will require them to skip the next round of the campaign.
9	They crash land on an uninhabited rock and return after two campaign rounds.
10	Missing. Roll again after next round of campaign.
11	Captured. The enemy will exchange them for one of their legendary ace crews that you hold.
12	Killed in action, causing the bankruptcy of at least one saloon.

Captured equipment is captured from the empire being fought against. If there are several enemies, select one by a random die roll. Andromedan ships cannot be captured (crew dies) and don't exchange prisoners.

(K8.43) LIMITATION: Each crew only gets one chance to become legendary, no matter how many times (or how many different variants) it qualifies in. However, once a crew is legendary, the "return" rule applies regardless of what PF the crew is flying.

END OF SECTION (K0.0)

NOTE: There is no section (L0.0). The next section is (M0.0).

(M0.0) MINE WARFARE

(M1.0) GENERAL RULES

Mines are special devices laid in space which usually contain both a control mechanism and a warhead (which is usually explosive). They are used not only for a variety of defensive and deterrent purposes but also have some value as offensive weapons.

The *SFB CAPTAIN'S BASIC SET* includes a rudimentary section on space mines. This includes the large mines carried by certain older Romulan ships (M2.0) and the smaller "transporter bombs" carried by most ships (M3.0).

ADVANCED MISSIONS includes a much more extensive section on mine warfare, including various types of mines, minefields, and minesweeping, designated (M4.0) through (M9.0). Note that "detecting" a mine is not the same as causing it to explode. Mine detection is covered in *Advanced Missions*.

(M2.0) NUCLEAR SPACE MINES: BASIC MINE TRIGGERING RULES

Mines are explosive packages equipped with sensors and programmed to explode when they detect a moving ship or other unit. This rule section provides the basic mechanics for all mines.

(M2.0) also deals specifically with "large" mines which are known as "nuclear space mines" or NSMs. Within the game, the terms "large mine" and "NSM" are interchangeable. "Small mines" (M3.0) are just as nuclear as large mines and are placed in space just as large mines are, but the term "NSM" is reserved only for large mines. Both of these mines are subcategories of automatic-explosive mines as defined in *Advanced Missions* rules (M4.3) and (M5.1), the mechanics of which are described in this section.

Romulan Old Series ships (e.g., Warbird and War Eagle) each carry one nuclear space mine (NSM) which they can use in attempts to damage or destroy enemy units. In *Advanced Missions*, minelayers will be provided which can lay extensive fields of large mines.

(M2.1) LAYING

Mines can be dropped in the same hex as the (laying) ship without dropping a shield. When dropped, the mine is placed in the same hex as the unit that dropped it (at the time it was dropped). Minelayers use special rules for laying mines; see (M9.0).

If using plotted movement, the action of laying a mine, including the specific impulse and hex, must be plotted in advance. If using the standard free movement rules, plotting is not required. See (C1.33) for restricted mine placement at some levels of plotting. See (M2.6) for secret placement.

(M2.11) LAYING RATE: A ship can drop one mine (regardless of size) from each of its shuttle bays [not boxes; see (J1.51) for definition of bays] each turn, with no two bombs being dropped from a given bay within 1/4 turn. Units using Erratic Maneuvers cannot lay mines; see (C10.53).

(M2.111) Mines cannot be dropped on the same impulse that a shuttle is launched or landed through the main shuttle hatch (J1.502), or on the impulse before or after such an impulse. (In effect, the dropping of a mine replaces the launching of a shuttle.) Mines are dropped through the main hatch only; not through the launch tubes.

(M2.112) Mines can be dropped even if all shuttle boxes in that bay have been destroyed.

(M2.113) See Annex #7M or #7G for how many bays each ship has; this data is also noted on the SSDs. A shuttle bay which contains only fighters cannot be used to drop mines. See, for example, (R9.R2).

Shuttle bays in the booms of Klingon ships cannot lay T-bombs unless the boom is detached *and* the boom is specified by (G12.8) as carrying T-bombs. Shuttle bays with two hatches could drop one mine from each hatch each turn, even on the same impulse.

(M2.114) Mines can be dropped even if the ship is being held in a tractor beam; see (G7.945).

(M2.115) Large mines cannot be laid by transporter; see (M3.225).

(M2.12) PLACEMENT: A mine counter is placed in the hex where a mine is laid. Exception: the dropping of a mine from a ship cannot be detected if using (M2.6).

(M2.13) EXCEPTIONS: Certain ships have exceptions to the mine laying rate given in (M2.11).

(M2.131) Andromedan ships, which do not have shuttle bays, drop T-bombs out of a special hatch. See (R10.1D42). This hatch is considered a shuttle bay for this purpose (only).

(M2.132) PF Leaders, which have no shuttle bay, drop their single T-bomb from an external rack. See (K4.3). Minelaying PFs operate as per (M9.21).

(M2.133) Ships with special mine racks, such as minesweepers and minelayers, use the faster rate in (M9.21).

(M2.134) Some types of mines in *Advanced Missions* (M9.23) cannot be laid during a scenario. No mines of these types are included in *Basic Set*.

(M2.14) TARGET SIZE SELECTION: Players have some control over what targets the mine will accept.

(M2.141) At the point of laying a mine, the player laying it secretly records in writing the size classes (R0.6) that it will accept as a target; it will ignore all other size classes. (If no classes are specified, it will accept all size classes.) For example, this allows a mine to be set to ignore drones but accept ships, thereby preventing the enemy from clearing the mines without risk by detonating them with drones. See (M5.15) for more details.

(M2.142) A mine could also be given no size-class settings, in which case it would remain inert (i.e., would not explode) except under certain conditions such as: contact with an ESG (G23.61), a failed minesweeping attempt (M8.4), etc. The player cannot exclude any of these conditions.

(M2.143) An unvoided wild weasel will be regarded by a mine as a ship of the size it is simulating; see (J3.26).

(M2.144) The sizes set need not be continuous. For example, a setting of 1-3 and 5-7 is acceptable, as is a setting of 2+4+7.

(M2.15) TARGET COUNT DELAY: At the point of laying a mine, the player laying it may record instructions to ignore the first one-to-six targets (his choice how many). This number is the total number of targets acceptable under (M2.14) regardless of the size class of individual targets. See (M5.16).

(M2.151) This is a total number of targets, not the total number of die roll opportunities. If one target leaves the detection zone and later returns and reenters the detection zone, it counts as a second target.

(M2.152) The mine will automatically reset this count to zero between scenarios.

(M2.153) If the potential target is moving slowly and is not detected, it is not counted toward the delay. Once such a target is detected (and ignored), it will continue to be ignored so long as it remains in the detection zone.

(M2.154) If multiple targets enter the detection zone of a mine with a delay, place them in order as per (M2.47) and resolve the situation by the rules above.

(M2.2) CONDITIONS

(M2.21) IMMOVABLE OBJECT: Once dropped, the mine cannot be picked up, disarmed, or moved by any means, including tractor beams (G7.271), transporters (G8.341), or displacement devices (G18.72). [Exception: Black Holes (P4.14) can move a mine.] Mines cannot be placed in orbit (P8.472).

(M2.22) DESTRUCTION: The mine cannot be destroyed or damaged, unless it:

- detonates against an acceptable target (M2.4),
- falls into a black hole (P4.21),
- is struck by an ESG (G23.61),
- is placed in a nebula (P6.6),
- or unless it is swept by (M8.0).

Mines are immune to many effects including:

- Radiation Zones (P15.2),
- Gravity Waves (P9.315),
- Pulsar Outbursts (P5.23).

(M2.23) NEUTRALITY: Once dropped, the mine is neutral in all respects. It will trigger against any unit, including the one that dropped it or a unit on the same side as the one that dropped it. Mines cannot be set to accept only enemy units. A mine that could distinguish between enemy and friendly units would be much more expensive and could possibly be fooled (not to mention needing continuous updating due to changes in ship design and shifting alliances), rendering minefields worthless. Therefore, none were ever built.

(M2.3) ARMING

Before the mine can trigger, it must be armed.

(M2.31) POINT OF ARMING: Arming takes place automatically at the instant that the unit which dropped the mine leaves the mine's Detection Range (M2.35).

For purposes of *Basic Set*, the ship must move away from the mine by two hexes. (That is, the ship is no longer in the same hex as the mine or in a hex adjacent to the mine.) Displacing (G18.0) out of the detection zone is also leaving.

Transporter bombs placed by transporter have a delay before they will arm; see (M3.223).

(M2.32) DESTROYED MINELAYER: If the laying unit is destroyed or displaced (G18.0), it is no longer within the safety range and the mine becomes armed at that point.

(M2.33) SIZE SETTING: The mine cannot become active until the laying unit leaves the area specified, even if the mine is set for a size target that does not include the laying unit.

(M2.34) SEQUENCE: The mine cannot become active until the end of the Movement Step on the impulse on which the laying unit moved out of the detection range. Thus, a unit which entered the detection range on the same impulse, regardless of the movement order specified in (C1.313), could not trigger the mine on that impulse. However, since the mine is now armed, any subsequent movement in the detection zone could detonate it. See (C13.19) for additional information. Also note that as the detection range could be set to zero, the mine would become active when the minelaying ship entered the next hex, and that ship would still be in the blast radius if the mine was detonated by something before the ship moved again.

(M2.35) DETECTION RANGE: All mines have a detection range, the range at which they can detect a moving object. All hexes within this range are in the detection zone of that particular mine. All mines in *Basic Set* have a detection range of one (and hence a detection zone of seven hexes, the mine hex and the six surrounding hexes). Detection range is always in terms of "true range" (D1.4), never effective range.

(M2.4) DETONATION; TRIGGERING

(M2.40) PROCEDURE: If any unit acceptable to the mine's instructions (M2.14) moves into a hex of the detection zone (M2.35) of an armed mine, there is a chance that the mine will trigger. To determine this, roll a single die. If the result is less than the unit's effective speed (C2.451), the mine has triggered. If the result is greater than or equal to the unit's speed, the mine has been detected in time and avoided; it does not trigger on that impulse. It might trigger as a result of later movement by this or another unit. Movement of the mine itself [black hole (P4.14)] will not cause the mine to trigger, only movement of a valid target.

Exceptions: Cloaked ships (G13.55) and minesweepers (M2.45). Ships entering a detection zone while using Erratic Maneuvers (C10.46) will always trigger mines. Either nimbleness or cloaking may protect a slow ship from detonating every mine. The launch of a seeking weapon will not trigger a mine (that is set to accept that seeking weapon as a target); only the movement of the weapon will.

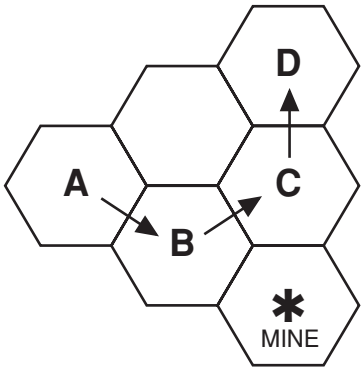
(M2.41) TRIGGERING: The possibility of a mine triggering is resolved when the unit *enters* a hex in the detection zone of an active mine. While an anti-drone is, technically, a physical object, the passage of an anti-drone round through the detection range of a mine will not detonate the mine.

NOTE: While the mines in *Basic Set* simply explode, some of the mines in *Advanced Missions* perform other actions when triggered. For purposes of *Basic Set*, the terms "triggering" and "detonating" are identical.

(M2.411) Should the mine become active while a unit is in its detection zone, the unit will not trigger the mine on that impulse. Only entering a hex in the detection zone will cause the mine to trigger.

(M2.412) A unit moving in the vicinity of a mine may enter several hexes within the detection zone (and may enter the mine hex itself) and must roll for possible triggering each impulse that it enters a hex inside the detection zone.

(M2.413) The key factor is "entering a hex within the detection zone." Even if moving away from the mine at the time, entering a hex in the detection zone of a mine qualifies for a die roll to see if the mine has triggered. This example uses a detection radius of one hex.



Movement from A to B or from B to C might trigger the mine, but movement from C to D could not.

(M2.414) Expending movement points without moving (e.g., Tactical Maneuvers, High Energy Turns, while trapped in web) cannot trigger a mine; see (C2.45). Base rotation (C3.7) will not trigger a mine, but a base in orbit (P8.2) could "move" into a mine's detection zone and possibly trigger it (it is moving at a speed of one). Erratic maneuvers do count as movement; see (C2.45), (M2.43), and (C10.46). Moving without expending movement points (e.g., pulled by a black hole) can trigger a mine (C2.451).

(M2.415) Being rotated by tractor (G7.7) into detection range does not trigger a mine immediately, but the rotated unit is treated as having entered that hex at its current effective speed on Impulse #1. (If rotation breaks the tractor, the ship will be moving at its own speed when next it moves.) Shuttles being rotated by (J1.62) are treated as entering the hex at the current effective speed of the rotating ship.

(M2.416) A unit displaced into a hex in the detection zone of a mine does not trigger the mine by its arrival; see (G18.65). Further movement may trigger the mine. Appearing in such a hex by displacement and then moving into a hex which is outside of the detection zone will not trigger the mine. Appearing by transporter (G19.41) will not, in itself, trigger a mine.

(M2.417) Some mines in *Advanced Missions* have the capability to damage targets several hexes away. In such case, the detection zone (M2.35) is considerably larger, and a ship moving through that larger detection zone will have many more opportunities to trigger the mine. See (M5.12).

(M2.418) In the event that a drone (or seeking shuttle) enters the hex of its target, and that hex is within the detection zone of a mine, the Sequence of Play (Annex #2) defines that the drone will strike its target *and then* the mine will trigger.

(M2.419) Electronic warfare (D6.3) never affects triggering.

(M2.42) DIE ROLL OF ONE: A die roll result of "one" always results in the triggering of an active mine, regardless of the speed of the triggering unit.

(M2.43) MOVEMENT TRIGGER: Only movement into a hex within a detection zone can cause triggering; see (M2.41). Leaving such a hex, appearing in such a hex by displacement device (M2.416), or performing a Tactical Maneuver or High Energy Turn (M2.414) in such a hex will not cause triggering. Impulses in which a moving unit does not actually move (i.e., change hexes) do not require a die roll, unless the unit is conducting Erratic Maneuvers (C10.46).

(M2.44) MULTIPLE MINES: Whenever a given movement action (i.e., a unit entering a hex) has the possibility of triggering several different mines, roll separately for each mine. See the example in (M2.47).

(M2.441) Each unit can only cause one mine to trigger for each hex of its movement, even if several mines are in the same or adjacent hexes. Once one mine has been triggered by one moving unit, that same unit cannot trigger any other mines on that impulse. See (M2.443) below.

Exceptions: Chain (M5.3), Deadman (M5.35), and ESG impact (G23.61).

(M2.442) If more than one mine is available, determine the order in which they will be rolled for randomly before rolling for any one mine. Obviously, a mine that will not accept a given target will not be rolled for, and this may reveal some data about its targeting instructions.

(M2.443) Mines which are not automatically controlled (M5.1) do not count against this limit. All of the mines in *Basic Set* (NSMs and transporter bombs) are automatically controlled and therefore do count against this limit. If you only have *Basic Set*, you can ignore (M2.443).

When they are not relying on their automatic triggers, command (M5.2) and chain (M5.3) controlled mines do not count against this limit; see *Advanced Missions*. Command-controlled mines (M5.2) are never included in this limit as the unit controlling them can detonate any or all of them as the situation requires.

Sensor mines (M4.5) and captor mines (M4.4) are treated separately. If one or more of each type are in position, group them into categories (sensor, explosive, captor), put the members of each category into a random order, and roll for each mine in each category until one mine in that group triggers or all mines in that category have been rolled for.

(M2.444) While mines can be rigged (in *Advanced Missions)* to trigger each other or might be triggered simultaneously by various means, each mine is a separate explosion. They are not combined together [see, for example (G10.76)], and each is resolved as a separate volley (M2.502).

(M2.45) MINESWEEPERS (which are in *Advanced Missions)* add two to their die roll in (M2.40), lowering the chance of triggering the mine, but rule (M2.42) still applies. Cloaked minesweepers do not receive this benefit. See (XM2.45) for X-ships. If a minesweeper launches a wild weasel, that weasel is treated (for purposes of detonating mines) as a ship of the size-class of the minesweeper, but does not get any minesweeper bonuses.

(M2.46) RANGE: Explosive mines will not trigger if their target is not within their blast range, which is one hex. See (M5.12).

Exception: Chain (M5.3) or Deadman (M5.35).

(M2.47) MULTIPLE UNITS: Cases may arise where two or more units are in a relatively small area with two or more mines. In as much as the movement of a single unit can only cause the triggering of a single mine, this can become complicated. See (M2.44). The procedure is as follows:

A. For each unit, determine which mines it could trigger.

B. Place these mines (for each unit) in a random order by rolling a die for each mine and placing the mines in order from the highest to lowest. (Roll again to resolve ties.)

C. Roll for the possible triggering of each mine in order until one mine triggers or all mines have failed to.

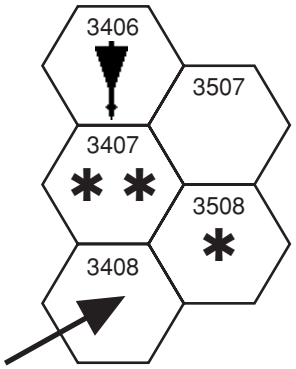
Repeat this procedure for each unit in the Order of Precedence (C1.313). If two or more units are equal in that order, toss a coin or roll a die to establish their relative order. However, see (P3.23) which can put certain units in a specific order of travel.

If one unit triggers a given mine, do not delete this mine from other lists. It is possible that two units could trigger the same mine (or different mines). In the event that two or more acceptable targets trigger the same mine and the mine is NOT of the explosive type (*Advanced Missions),* the mine will direct its actions against the target which is closest. If the targets are equally close, roll a die to determine which target the mine directs itself against.

EXAMPLE OF MULTIPLE MINE INTERACTIONS

The operative rule is (M2.441), which states that the movement of one unit can only cause the detonation of one mine. Let's say that we have two mines in hex 3407 and one in hex 3508. A ship is in 3309 and enters 3408, while at the same time a drone (perhaps targeted on the ship) is in 3405 and enters 3406.

The ship is adjacent to all three mines and could detonate any of them. (M2.442) says that you roll in a random order. (M2.47) says that when two units are in a small area, you determine the order for each moving unit by die roll. For the ship, we do this and find that 3508 is first. For sake of argument, we will say that it did not explode (the ship is moving at Speed 4; at speeds of seven or more the die roll would have been automatic). The next mines are those in 3407. We roll for the first one, and it explodes. Because the ship has caused one mine to explode, it does not roll for any further mines.



The drone must now roll for mine explosions. It has only the two mines in 3407 to deal with. While one of them has just exploded, movement is simultaneous so, at the time the drone rolls, that mine has not exploded and must be rolled for.

We determine the order for these mines randomly under rule (M2.47), and note that the unexploded #2 mine in that hex is first for the drone. Due to the drone speed, explosion is automatic. So, in this case, the drone and the ship each set off different mines in the same hex; both take full damage from each. Having set off one mine, the drone does not "roll" for the second.

In another example, six mines are in a single hex. One mine is set to accept the first target, another mine to accept the second, the third mine to accept the third, and so forth. Six units enter the hex. If the units are at Speed 7 or more, all of them will trigger a mine, but to determine which mine they trigger, place the units in order (M2.47) and then each moving unit places those mines it might detonate in an random order and detonates the first mine in that order. [Unit #3 might detonate mines #1, #2, or #3. It would roll to place them in a random order, perhaps #2 - #3 - #1, and detonate the first one, in this case, #2.]

If, however, all of these units were moving slowly enough to require a die roll to detonate the mine, then the first unit [see (M2.47) to place them in order) would make a die roll to detonate the first mine but (if it did not explode) would not roll for the other mines. The second unit might detonate either of the first two mines, and would roll a die to place those mines in a random order and then roll to try to detonate them. The same procedure is then repeated for each moving unit, until the sixth moving unit must roll against all six mines (some of which might have already detonated). In each case, each unit would stop rolling if it detonated any mine.

(M2.48) PLASMA TORPEDOES will not trigger mines; exception:

- type-D (phaser armed) captor mines in (M4.41)
- sensor mines (M4.5) controlling phaser-captors
- Andromedan PA mines (M10)
- Andromedan Trans-Captor mines (M11.0)

Mines (with the exception of phaser captors and PA mines) cannot damage plasma torpedoes and will not accept them as targets. It is possible that other mines could be added to the game which will also affect plasma torpedoes; if so, those mines will be noted in their own rules.

(M2.5) RESOLVING EXPLOSIONS

(M2.50) PROCEDURE: If a mine explodes, it will damage all units in the same hex as the mine and all units in hexes adjacent to the mine. This is known as the explosion zone.

A mine explosion is not entirely the same as a ship explosion (D5.0).

(M2.501) A large explosive mine causes 35 points of damage to the shield facing the mine hex. If the unit is in the mine hex, the mine is presumed to damage the shield which was facing the mine hex when the unit entered that hex. This will usually be the #1 shield (#4 if moving in reverse), but see (M2.53) for a possible exception. EXCEPTIONS: Atmosphere (P2.5471), ESGs (G23.61), webs (G10.76), object of damage in stasis (G16.41).

If a mine is placed in a hex occupied by a unit which is not moving (or moving slowly) and detonates (due to some other factor) before the unit in question leaves the hex, the shield facing the mine is the shield facing the hexside through which the unit which dropped the mine (D3.43) entered the hex. This might be a different shield than the one that was facing that hexside when the mine was dropped if the ship performed Tactical Maneuvers or a High Energy Turn in intervening impulses between the mine being dropped, arming, and triggering.

(M2.502) Each mine explosion is resolved as a separate volley.

(M2.51) DAMAGE ALL UNITS: If a mine explodes, it will damage all objects within the explosion zone, even if some of them are "friendly" to the mine, and even if those friendly objects are not the ones that caused the mine to explode; see (M2.54).

(M2.52) UNMOVING UNITS: Units which are not moving [and thus could not set off the mine; see (M2.43)] are still damaged if they are in the explosion zone (M2.50) when the mine explodes.

(M2.53) SIDESLIP: If a unit sideslips (C4.0) into a hex containing a mine and sets off that mine, the shield facing the hex entered takes the damage, not the #1 (or #4) shield.

(M2.54) OTHER MINES: An exploding mine will not destroy, damage, or trigger other mines within the range of its blast. Exception: (M5.31).

(M2.55) PLASMA TORPEDOES: The explosion of explosive mines will not damage a plasma torpedo.

(M2.6) SECRET PLACEMENT *(Optional)*

This optional procedure can be used by the players to add extra excitement, suspense, and tension to the game. It is often used in scenarios for mines placed before the scenario begins. It will require a certain amount of trust, fair play, and record keeping, and in highly competitive games may require a neutral referee to keep track of where the mines are.

This procedure cannot be used for mines which were laid by transporter (M3.222).

(M2.61) PROCEDURE: When a mine is dropped, the player dropping the mine records the hex number that it was dropped in, as well as the ship that dropped it and the turn and impulse number. He does not place a counter in that hex. The player must also record the settings of (M2.14) and (M2.15).

The opposing player should keep track of enemy movement to verify that the ship in question was in that hex on that impulse, and that no other unit has been there since then. This would not be necessary with a non-playing referee.

(M2.62) TRIGGERING: Whenever a unit moves into a hex adjacent to a mine hex, the player controlling the mine announces this fact and the hex that the mine is in. [Possible exception: (M7.34).] The possibility of triggering is resolved by (M2.40). In such a case, the written record of the mine's location must be exposed to verify its location.

(M2.63) DETECTION: Hidden mines can be detected by a number of procedures given in (M7.0) in *Advanced Missions*. In *Basic Set*, they are detected whenever the ship moves adjacent to them (M2.62). T-bombs laid during a scenario do not include mine identification numbers as do mines laid in minefields.

(M2.7) UNITS CARRYING NUCLEAR SPACE MINES

The following ships carry NSMs (large mines). Only the ships listed here, and any other ship specifically noted in its ship description rule, can carry large mines.

(M2.71) SUBLIGHT ROMULAN: The old Romulan sublight ships (Warbird, Hawk, and Snipe-S and sublight variants thereof) each carry one NSM, which is included in their BPV.

(M2.72) OLD ROMULAN (EAGLE): The other Old Series ships including the War Eagle, King Eagle, Pelican, Falcon, War Hawk, Battle Hawk, Chickenhawk, Scout Eagle, Freight Eagle, Snipe-A/-B/-P, and variants thereof, all carry one NSM, which is included in their BPV. Most of these ships are in *Advanced Missions* and *Module R4*.

(M2.73) K-ROMULAN (KESTREL): The KR Series "Klingo-Romulan" ships (including the KR and KF5R in *Basic Set* and other Klingon ships used by the Romulans in later volumes) can buy one NSM under the Commander's Option rules (S3.2).

(M2.74) NEW ROMULAN (HAWK): The New Series Romulan ships in *Advanced Missions* and *Module R4* (including the SeaHawk, SkyHawk, SparrowHawk, FireHawk, SuperHawk, NovaHawk, Condor, and variants thereof) can buy one NSM as per (M2.73). This does not apply to PFs; see (M2.77).

(M2.75) SMALL Q-SHIP: The Romulan small Q-ship carries one NSM, which is included in its BPV.

(M2.76) LARGE Q-SHIP: The Romulan large Q-ship carries two "mine racks," each of which holds four NSMs. The mines on the Romulan large Q-ship are not included in its BPV, but can be purchased in excess of the Commander's Options (S3.2). See (M9.1) for mine rack rules.

(M2.77) FAST PATROL SHIPS: PFs (including Romulan PFs) never carry large nuclear space mines; exception (R1.PF4) Mine Warfare PFs. PF Leaders have a limited capability to carry transporter bombs; see (R1.PF6) and (M3.13).

(M2.78) MINESWEEPERS: Ships specifically described as being minesweepers and which have mine racks (M9.11) can carry large and small mines. These mines are purchased (or assigned by scenario rules); they are not part of the BPV of the ship or within the limits of (S3.27).

(M2.79) MINELAYERS: These are special ships used by many empires. See (R1.12). They can carry large and small mines as per (M2.78). These mines are purchased (or assigned by scenario rules); they are not part of the BPV of the ship or within the limits of (S3.27).

(M2.8) ADVANCED SYSTEMS

These rules apply to systems in other products. You can ignore them if you only have *Basic Set*.

(M2.81) DISPLACEMENT: Mines cannot be moved by Andromedan displacement devices (G18.72) in *Module C2*. See also (M2.21), (G18.75), and (G19.49).

(M2.82) STASIS: Mines can be kept from triggering if held in a stasis field; see (G16.62) in *Advanced Missions.*

(M2.83) ESG: Armed automatic-explosive mines will trigger if hit by an expanding sphere (G23.0) in *Module C1*. (All mines in *Basic Set* are automatic-explosive.) Non-explosive mines (M5.1) will trigger against the ship generating the ESG if they survive the impact; see (M8.4) and (G23.61). See (M2.913) and (M2.92) for dummy mines.

(M2.84) PA PANELS: If a mine detonates in the same hex as a ship with PA panels (D10.0), the damage points are applied to the PA panels on the front of the hull (assuming the ship was moving forward; to the panels on the back of the hull if moving in reverse). This is treated as any other damage; damage in excess of PA capacity becomes internal damage.

If a mine detonates in an adjacent hex, the damage is absorbed by the facing panels.

Damage in excess of what the PA panels can absorb is resolved as internal damage points. PA panels are in *Module C2*.

(M2.85) MINESWEEPERS: Ships designated as minesweepers (*Advanced Missions)* receive a number of special benefits; see (M2.45), (M5.1122), (M7.321), (M7.51), (M8.12), (M8.3) and (M9.1).

(M2.9) DUMMY MINES

(M2.91) BASIC RULE: Dummy mines can be used to deceive an opponent as to the structure of a minefield.
(M2.911) Dummy mines appear and operate in all ways as explosive mines, but will not explode, trigger, or do anything else.
(M2.912) Dummy mines cost the same as the real mines they simulate and can be substituted for real mines in (M6.2). They are much more expensive than dummy T-bombs because the dummy T-bomb relies on the transporter-signature to convince the enemy that a mine is indeed present. A dummy mine must wait for months or years and then appear to be the same as a real mine. Dummy mines are used primarily to create gaps through a minefield, not for deception.
(M2.913) Dummy (large) mines are destroyed by two damage points; dummy small mines by one damage point. If hit by an ESG (G23.61), they will reduce that ESG by that amount.
(M2.914) Dummy mines cannot be set to appear as deadman mines (M5.35).
(M2.915) Dummy mines can only be destroyed by the same procedures as real mines; see (M2.22).

(M2.92) DUMMY T-BOMBS: These are provided by (M3.224). They operate as in (M2.91) except that their cost is included with the real T-bombs and they are destroyed by one damage point. Dummy T-bombs are not the same thing as dummy mines, and if dropped overboard would not (for example) damage an ESG field.

(M3.0) TRANSPORTER BOMBS

Transporter bombs are small mines which can be placed by transporters. They are used to lay small impromptu minefields, stop mass attacks by drones or fighters, damage enemy ships, etc.

Transporter bombs are small mines and are, in all ways, treated exactly like the mines in (M2.0) except where noted differently. The primary differences are size of explosion, placement by transporter, and use of dummy mines.

(M3.1) DEPLOYMENT

(M3.11) UNITS CARRYING T-BOMBS: All ships (including bases and some PFs) may carry transporter bombs.

(M3.12) COST: T-bombs may be purchased as "Commander's Option Items;" see (S3.2).

(M3.13) MAXIMUM LOAD: A unit's T-bomb storage [as opposed to mines in mine racks (M9.1)] as defined in this rule is always available for laying out its shuttle hatches or by transporter with no delay to "move" it from one part of the unit to another. The number of T-bombs each type of unit can carry is shown on the chart below:

CLASS	MAXIMUM ALLOWED
Size-4 ships/bases	2
Size-3 ships/bases	4
Size-2 ships/bases	6
Size 1 (starbases)	12
PF leaders	1
PFs, Interceptors	0
Fighters, Shuttles	0

NOTES: Minesweepers and minelayers are a separate case; see (M9.1). Mine warfare PFs (R1.PF4) can carry more mines, including T-bombs. Some specialized shuttles can carry mines, specifically multi-role shuttles (J8.2) and minelaying shuttles (R1.F6). Some shuttles can carry mines as cargo but cannot lay them; see (G25.13).

(M3.14) SSD: Bombs carried on board a ship are not represented on the ship portion of the SSD (there is a place to record their use on the chart portion) and cannot be detonated while on board. Bombs cannot be captured, deactivated, or detonated by enemy boarding parties. See (G12.83) for the location of stored bombs on a ship undergoing separation. Stored T-bombs [and NSMs (M2.7)] are destroyed by the last Excess Damage hit; see (FD2.423).

(M3.2) PLACEMENT

(M3.21) DROPPING: Transporter bombs can be dropped in the same hex as the (laying) ship without dropping a shield by using the procedures in (M2.1). A ship can drop mines during the same impulse it lays T-bombs by transporter; see (M3.221).

(M3.22) TRANSPORTER: Bombs may be placed by transporters (G8.0) in any hex not occupied by a ship, planet, moon, or shuttle. EXCEPTION: (G13.616). This creates tactical limitations, in that transporters only work over a distance of five hexes, and a shield must be dropped to transport them. (Andromedans, without shields, are notorious for their profligate use of T-bombs.)
(M3.221) Each transporter can transport one bomb per turn and, if used to transport a bomb, cannot transport anything else on that turn; see (G8.112). [Exception: evacuations under (D21.31)] Transporter bombs cannot be placed inside an enemy unit. An enemy unit can detect that shields have been dropped; see (D3.54). A ship can drop mines during the same impulse it lays T-bombs by transporter; see (M3.21).
(M3.222) When a T-bomb is placed by transporter, its location is immediately known to all units within 35 hexes of the hex where the T-bomb is placed. T-bombs placed by transporter are never hidden (M2.6). See (M8.0) for minesweeping.
(M3.223) When a T-bomb is placed by transporter, it does not become active for two complete impulses (i.e., until the end of the transporter step of the second subsequent impulse). For example, a T-bomb transported on Impulse #7 would become active (armed) during Impulse #9 and (because of the relative order of movement and transporters in the Sequence of Play) could not be triggered before Impulse #10.
(M3.224) Ships can deceive their enemies by transporting "dummy" T-bombs or DTBs. A ship carries as many DTBs as it does real T-bombs. Simple "inert material" (such as the contents of the ship's garbage bins) can be easily distinguished from mines. Each DTB is destroyed by one point of damage. See (M2.92). Dummy T-bombs come only as part of the Commander's Options (S3.2). They are not included with mines bought for minelayers (or sweepers) outside of (S3.2). Dummy T-bombs will not function (i.e., will not fool anyone) if dropped rather than transported. Dummy T-bombs cannot be part of a pre-established minefield, nor can they be placed before a scenario begins (unless specified by the scenario, for example a situation where one ship is in pursuit of another when the scenario begins). Dummy T-bombs come ONLY with T-bombs purchased as part of

Commander's Options. Dummy T-bombs cannot, under ANY circumstances, be replaced with real T-bombs. Note that if an enemy ship moved into the detection radius of a dummy T-bomb, it would not automatically know it was a dummy since you might have set the T-bomb for another size class.

(M3.225) Large mines (NSMs) cannot be placed by transporter. This rule *does* apply to Andromedans despite their ability to transport satellites ships (G19.4).

(M3.226) When they are laid or transported, T-bombs can be given target acceptance data as per (M2.14) and (M2.15).

(M3.3) OPERATION

(M3.31) GENERAL: Once placed, a T-bomb operates as an (M2.0) large mine, with the exception that the explosion is equal to ten damage points. The conditions of (M2.2) apply. Like mines, once a transporter bomb is placed it cannot be moved (M2.21), even by transporters.

(M3.32) RESTRICTIONS: If a T-bomb is transported into a hex adjacent to the transporting ship, it is also under the restriction of (M2.3) in addition to those of (M3.22). These conditions run concurrently and must both be independently satisfied. If the T-bomb is transported into a hex and the laying ship moves into the blast or detection zone before it arms, it will still arm on schedule.

(M4.0) MINE TYPES AND SIZES

Mines can be grouped into categories by size (M4.1), type (M4.2), and method of control (M5.0).

(M4.1) SIZE

Mines are produced in two sizes, generally referred to as small and large. Large mines include the NSM (M2.0) type; small mines include the transporter bomb (M3.0).

If more sizes are added in new products, these will be explained at that time.

(M4.2) TYPES OF MINES

There are four basic types of mines:

explosive (which explode); see (M4.3),
captor (which fire or launch weapons); see (M4.4),
sensor (which detect an approaching target and trigger other mines); see (M4.5), and
power absorber mines; see (M10.0) in *Module C3*.

If more types are added in future products, these will be explained at that time.

(M4.3) EXPLOSIVE MINES

The two mines in the *BASIC SET* are both explosive types. A large explosive mine (M2.0) has a yield of 35 damage points; a small explosive mine, the transporter bomb (M3.0), has a yield of ten damage points.

(M4.4) CAPTOR MINES

(M4.40) GENERAL: Captor mines are loaded with weapons, which are fired or launched when the mine is triggered. They fire automatically at the unit which triggered (M2.4) [or tried to sweep (M8.42)] them. Like all automatic mines, captors are neutral and will fire on friendly units; such fire counts as friendly fire under (FD7.47). The weapons on a captor mine are the same as weapons on a ship and roll normally to hit (or miss) the target.

(M4.41) TYPES OF CAPTOR MINES: The specific subtypes of captor mines are shown on the chart below. The captor mines listed here are the only ones currently available. Other types may be added in newer products and will be described there.

Sub-Type	Large	Small	Users
A	6 type-I Drones	2 type-I Drones	Klingon, Kzinti, Federation, WYN
B	3 Plas-F	1 Plas-F	Gorn, Romulan, ISC
C	3 Disr	1 Disr	Klingon, Tholian, Lyran, Kzinti, WYN
D	3 Phas-2	1 Phas-2	All
E	2 Hellbore	1 Hellbore	Hydran
F	2 Photon	1 Photon	Federation
G	6 Plas-D	2 Plas-D	Gorn, Romulan, ISC
H	12 type-VI Drones	4 type-VI Drones	Klingon, Kzinti, Federation, WYN
J	12 Anti-Drones	6 Anti-Drones	Klingon, Kzinti, Federation, WYN

(M4.411) Orion Pirates can use any of the above mines that are used by the local empire in the area in which the mines will be set up.

(M4.412) Type-A and type-G captor mines have a specific amount of ammunition available. They can fire one round (of ammunition) per turn if automatic [one per impulse if controlled by a base under (M5.212)] and, obviously, cannot fire more shots during a scenario than they have. Type-H and type-J captor mines also have a specific amount of ammunition available, but are able to fire more than one round a turn under automatic control. They cannot be reloaded during a scenario but are reloaded automatically between any scenarios involving that minefield (unless otherwise directed by the campaign or scenario rules).

The drones loaded in a type-A captor mine are type-I of the appropriate General Availability speed for the year in question (no cost). Players can purchase special drones but only for captor mines controlled (M5.2) by bases. (Use the standard non-carrier percentages, based on the total number of drones on all controlled-captors, then divide the special drones as evenly as possible among the captors. Mines do not have the "Commander's Option 20%" that ships and bases do; the cost must be paid by the base or as specified in the scenario.) All drones on type-A mines are one-space. They can be launched in any order.

(M4.413) Type-B captor mines launch/bolt plasma-F torpedoes. The large type-B captor mine can launch/bolt one (and only one) of these weapons each turn. The small type-B captor mine can launch/bolt its single weapon once every third turn (or less often if not triggered again). Type-B captors must be set before the scenario to launch or bolt (FP8.0) their torpedoes; they cannot launch some and bolt others.). Exception, type-B captors controlled by a base (M5.21) can bolt or launch as a seeking weapon at the controlling player's option and switch between the two options each turn. Type-B captor mines cannot launch pseudo plasma torpedoes.

(M4.414) Type-C and -D mines have the number of weapons shown and can fire each of these weapons once per turn. See (M4.42).

(M4.415) Type-D captors are armed with phaser-2s even if the ships of the owning empire are normally armed with phaser-1s. Type-D captors can be set to fire at plasma torpedoes. They can distinguish the size of the warhead (in strength points) and can be set to fire on a torpedo of (or larger than, or smaller than, or between) a specific size(s). A Type-D captor could be told to fire on a plasma torpedo of 23-30 strength points but not one of 22 strength points. They cannot distinguish between a real and pseudo-plasma torpedo. Phaser-captor mines are the only automatic mines currently in the game that can accept a plasma torpedo as a target. See (M10.0).

(M4.416) Type-E mines have hellbore cannons. The large type-E mine, with two weapons, can fire one (and only one) of these weapons each turn. The small type-E mine can fire its single weapon once every second turn (or less often if targets or other rules prevent firing). It can be set for enveloping (E10.4) or direct-fire (E10.7) modes (all shots by a given mine must be the same); this must be recorded in the minefield set-up records and cannot be changed during the scenario. Exception, type-E captors controlled by a base

(M5.21) can fire enveloped or direct-fire shots at the controlling player's option and switch between the two each turn. See (M4.421).
(M4.417) Type-F mines have photon torpedoes. The large type-F captor fires one photon per turn; the small type-F captor fires one photon on every second turn. See (M4.42).
(M4.418) The type-G captor mine is similar to type-A, but holds type-D plasma torpedoes (FP9.0). Type-G captors can be set (before the scenario) to launch or bolt (FP8.0) their torpedoes; they cannot launch some and bolt others. See (M4.412). Exception, type-G captors controlled by a base (M5.21) can bolt or launch as a seeking weapon at the controlling player's option and switch between the two options each turn.
(M4.419) Type-H mines are armed with type-VI dogfight drones and were often used to ward off fighter and drone attacks. A captor mine equipped with them can be set to launch one per impulse if more size-6 or size-7 targets are present until all such targets have been engaged one time that turn.
(M4.419A) Type-J mines are armed with anti-drones and are used to stop fighter or drone attacks. A type-J captor can be set to fire one anti-drone per impulse if shuttles, fighters, or drones are within a set range (either two hexes or three hexes) until all such targets have been engaged once during the turn.

NOTE: Defense Satellites (R1.15) are similar in some respects to captor mines.

(M4.42) LIMITATIONS: Captor mines have certain limitations:
(M4.421) No captor mine can fire overloaded weapons.
(M4.422) No captor mine has any form of improved or special fire control (e.g., proximity photon, UIM, DERFACS, narrow salvoes, etc.). This rule does not define any of the listed systems in a special category beyond the purpose stated here. Note: The addition or lack thereof of implosion detonators on type-E captors, and the ability to bolt or launch plasma torpedoes of type B or G captors are not improved or special fire controls.
(M4.423) The 1/4-turn delay rule applies between subsequent firings on subsequent turns. Naturally, no captor mine can fire any one weapon more than once per turn. Exceptions: Type-A and type-G captor mines controlled by bases; type-H and type-J whether controlled by bases or not; (see M4.412).
(M4.424) Unless otherwise noted, the maximum range of all direct-fire weapons mounted on captor mines is fifteen hexes (effective range). Of course, without some form of external control that ordered it to fire, the mine would not engage targets more than six hexes away (M4.43). See (M4.47) for minimum range.
(M4.425) Seeking weapons fired by captor mines operate normally.

(M4.4251) Captor mines control seeking weapons as if they were fighters (F3.226). They have an assumed sensor rating of six (which cannot be reduced). See (M4.44) for electronic warfare restrictions.
(M4.4252) The launching mine retains control and can guide the weapon to a maximum range of 35 hexes from the mine. (The target would have to be within six hexes for the weapon to be launched unless the mine was command-controlled by a base or sensor mine.)
(M4.4253) A seeking weapon which fails the lock-on die roll in (G13.334) against a cloaked target will release itself from control of the mine and, if equipped with ATG, will attempt its own die roll.
(M4.4254) No captor mine can assume control of seeking weapons launched by any other unit.

Automatic captor mines will never transfer control (F3.5) of a seeking weapon, except that they could release an ATG weapon to its own guidance under (F3.42) and/or (M4.4253).

If the mine is command-controlled by a base, that base could assume guidance of the seeking weapon from the mine and is the only unit that can do so. A base that has taken over guidance of a seeking weapon can transfer control of that weapon on a subsequent impulse after it has taken control, although it cannot transfer it back to the mine.

(M4.426) Captor mines cannot be laid during a scenario (M9.23).
(M4.427) See (G23.61) and (M8.42) for the effect of an ESG striking a captor or sensor mine.
(M4.428) Captor mines never take feedback damage from a weapon they fire or launch.
(M4.43) TRIGGERING: Captor mines fire automatically (M5.112) at any target that enters any hex within their detection zone, which has a radius of up to six hexes (this must be set by the owning player before the scenario begins). Note specifically the requirement to "enter a hex" in the detection zone. There is no die roll based on target speed. See (M5.1123).
(M4.431) They can be given programming under (M2.14) and (M2.15).
(M4.432) Command-controlled captor mines (M5.2) can be ordered to fire on targets more than six hexes distant, within the limits of (M4.424).
(M4.433) Captor mines can also be chain controlled (M5.3). They will target the nearest unit which caused the explosion(s) which triggered the chain detonator (in the case of more than one unit tying, roll a die, with the highest number determining which unit will be the target).
(M4.434) The owning player can, as part of the pre-scenario programming of his mines, limit the firing (or target tracking) arc of a captor mine. (Non-captor mines cannot be programmed in this manner.) This is usually done around bases to avoid having the mines in the belt fire inward at defending units.

(M4.4341) This can only be done as one continuous sector with increments of 60° corresponding to the standard firing arcs (e.g., LF, L, LR), assuming a "facing" of A. For example, a mine could be limited to the LF+RF+R arcs.
(M4.4342) These arcs apply to automatic mines (or command mines which are set into automatic mode). Command-controlled mines can fire (when under control of the base) in any direction regardless of programming. Command-controlled mines under control of sensor mines have the firing arcs defined in their programming.

(M4.435) Captor mines require a lock-on against a target before they will fire direct-fire or launch seeking weapons at it; see (M4.4251). They cannot use passive fire control (D19.0).

See (G13.555) if firing at a cloaked ship. (The earliest printings of *Basic Set* have two versions of that rule; the second is correct.) The mine will lock-on when the cloak is voided or dropped, and roll to retain lock-on at the next Lock-On Stage (6B3). If a captor mine has a lock-on, it will fire/launch when next triggered by the cloaked unit.

(M4.44) ELECTRONIC WARFARE: Captor mines have three points of built-in ECCM (D6.3142). A base can lend ECCM to a specific captor mine or sensor mine under its control as it would to any other unit (G24.21); captors do not have the ECCM of the controlling base as a seeking weapon would. See, however, (M4.57) if a sensor mine is controlling the captor. ECM cannot be lent to mines. ECCM cannot be lent to mines other than controlled-captor mines. Offensive EW (G24.219) cannot be lent to mines, but could be used to affect minesweepers (M8.13).

(M4.45) BLOCKED LINE OF FIRE: Captor mines will not fire at a target behind a planet or other obstacle (such as web) that blocks fire. (Terrain which degrades fire, such as asteroids or dust, rather than blocking it, does not count for this purpose). If triggered, it will attempt to fire at targets which may have high ECM shifts in their favor, so long as there is at least some chance of causing damage.

(M4.46) DIRECT-FIRE SEQUENCE: Captor mines armed with direct-fire weapons fire immediately when triggered (not within the normal Sequence of Play). See (M5.112). When firing at a cloaked ship, they will fire immediately when triggered only if they have already achieved and retained a lock-on (M4.435). See also (M5.201).

(M4.47) NO MINIMUM RANGE: A triggered captor mine can fire at less than its minimum range; use the lowest non-overloaded range column on the chart. See (M4.428) and (M4.424).

(M4.48) SEEKING WEAPONS: Captor mines with seeking weapons do not launch them when they trigger. They commit to launch them at that point and actually launch them at the appropriate point of the Sequence of Play, i.e., the Seeking Weapons Stage (6B6). If the target is no longer available (destroyed, no lock-on, behind a planet, etc.), the mine will not launch its weapons. It will reset and look for a new target. If a captor bolts a plasma torpedo, it is resolved in the Mine Direct-fire Sequence (M4.46).

(M4.49) MULTIPLE ENGAGEMENTS: In the event that one moving unit triggers more than one captor mine (M2.47), the closest captor will fire. If two or more captor mines are equally close, select the one to fire by a die roll. Any captor mine which, for whatever reason, cannot fire (out of ammunition, blocked line of fire, etc.) is ignored for this purpose. In the event that a given automatic captor mine is triggered by more than one unit, that captor mine will fire at the closest unit at which it legally can fire. If two (or more) are equally close, select a target by die roll. Use a procedure similar to (J1.413).

(M4.5) SENSOR MINES

Sensor mines do not explode or fire weapons. However, they can detect enemy units and trigger other mines, usually captor mines. Sensor mines use an automatic control system (M5.1) to determine if they will issue instructions (unless the sensor mine is, itself, controlled).

(M4.51) PROGRAMMING: The specific action to be taken by a sensor mine when it detects an enemy ship entering its (M5.12) detection range (zero-to-six hexes, set by the owning player before the scenario begins) must be programmed into its computer circuits. To reflect this, these actions must be written before the scenario is begun.

EXAMPLE: Sensor mine #3 might be told "when you detect a size-class 3 ship within range, order captor mine #26 to fire at it." See (M4.54); in the example captor mine #26 is the only mine controlled by sensor mine #3.

(M4.52) SIZE: All sensor mines are classed as small mines.

(M4.53) TRIGGERING: Sensor mines can accept a target moving at any speed greater than zero. The normal die roll for triggering (M2.40) does not apply; see (M5.112).

(M4.54) SPAN OF CONTROL: A sensor mine can control up to six other mines, including captor and explosive mines. The sensor mine must be within fifteen hexes of any mines it controls (M5.22).

(M4.541) These mines are assigned prior to the scenario; the list of mines controlled by a given sensor mine cannot thereafter be changed (except between scenarios).

(M4.542) Each of these mines (of the same type) would be sent the same command (M5.20) simultaneously, but each type will/could receive separate orders appropriate to its type. A sensor mine will not order an explosive mine to detonate unless it is adjacent to or in the same hex as the target which triggered the sensor mine.

(M4.55) JOINT CONTROL: A given mine can be controlled by up to three sensor mines.

(M4.551) For each jointly-controlled mine, each of the sensor mines must be given a relative priority (e.g., captor mine #26 will consider orders from sensor mine #4 as being more important than those from sensor mine #5, in the event that both sensor mines send simultaneous commands.

(M4.552) A command-controlled mine which is controlled by one or more sensor mines can also be controlled by a manned base. [It can also control itself; see (M5.28)]. The base can order (M5.20) the mine to activate/deactivate and can order it to disregard the orders of a sensor mine for the remainder of the scenario, but cannot order the dual-controlled mine to trigger. The base cannot order a command mine to resume accepting commands from a sensor mine until after the scenario.

(M4.56) CONTROLLED SENSOR MINES: A sensor mine can, itself, be command-controlled, but the limits of this control are to tell the mine to become active or inactive (M5.20). While inactive, the sensor mine cannot detect targets or give commands and cannot itself be detected. See (M5.32).

(M4.57) ELECTRONIC WARFARE: Sensor mines have three points of built-in ECCM (D6.3142). If they are controlled by a base, they can be lent ECCM (but not ECM) by the base as the base would lend to a specific unit (G24.21); they do not receive the ECCM of the base as a seeking weapon would. ECCM lent to a sensor mine does not apply to any captor mines it controls. The ECCM of the sensor mine (built-in, not lent) is added to the ECCM of any captor mine it controls, but each captor mine only receives ECCM from one sensor mine at a time.

(M4.58) USING SENSOR MINES AS ALARM MINES: A sensor mine can be placed and not linked to any mines, but instead given instructions to report the presence of a target to the nearest base. Such an alarm mine could be used in a remote minefield to summon the base reaction force, or it could be used to help detect cloaked ships approaching a base. The mine would report that a qualified target had caused it to trigger, but could not report the exact (i.e., hex) location of the triggering unit or any data about that target. The mine will report each time it is triggered, but not whether the same or a different target did the triggering. If such a sensor mine was destroyed, it would not be able to report that event; it would simply cease reporting. Remember that the use of hidden cloaked ships vs. hidden minefields will require the use of a neutral non-playing judge. The target will not know that the mine has transmitted a report, although a non-cloaked ship might detect the presence of a mine under (M7.34) if its fire control was active.

(M5.0) TYPES OF MINE CONTROL SYSTEMS

Mines may be controlled (ordered to trigger) in one of three ways: automatic (M5.1), command (M5.2), or chain (M5.3).

One critical difference in these types is in the difficulty in detecting them; see (M7.0). It is virtually impossible to detect chain and command-controlled mines as they emit no energy. Automatic mines emit a weak sensor field to detect potential targets.

All mines (except those controlled by bases) are neutral in all respects and will detonate/trigger against "friendly" ships.

(M5.1) AUTOMATIC MINES

This is the standard and most commonly used type of mine. Note that this mine does not detonate automatically, but must make the die roll (M2.40), except in the case of captors and sensors (M5.112).

(M5.11) TRIGGERING: The effect of an automatic detonator depends on the type of mine.

(M5.111) Automatic-explosive mines trigger when a unit enters their detection range, which is one hex. (This can be voluntarily set for zero hexes, i.e., only the hex containing the mine.) The rules for triggering an automatic-explosive mine are given in (M2.4). Both types of mines in the *BASIC SET*, (M2.0) and (M3.0), are of this type.

(M5.112) Automatic-captor and automatic-sensor mines trigger automatically when an acceptable target enters a hex within their detection zone; the speed of the target is irrelevant in their case. This is important in laying out minefields as you could inadvertently deploy your captor mines beyond their own effective range.

(M5.1121) In the case of cloaked units, a die is rolled for the mine each time the cloaked unit enters a hex within the detection zone, and the mine will trigger only on a roll of "1." Captor mines automatically detect any cloaked unit within their detection zone (and target programming) at the instant that the cloaked unit's cloak is voided; see (M4.435) for firing instructions. Cloaked minesweepers do not get the benefits of (M2.85) or have any other abilities or benefits beyond any other cloaked ship.

(M5.1122) In the case of minesweepers, a die is rolled for the mine each time the minesweeper enters a hex within the detection zone, and the mine will trigger only on a roll of "1-4."

(M5.1123) In the case of a unit which appears within the detection zone by displacement (G18.65) or transporter (G19.41), the mine will not trigger until the unit actually moves within the detection zone.

(M5.113) A mine can be in one of several modes at any given time. These are defined in various rules, but are summarized here.

(M5.1131) ACTIVE: This is the normal state for a mine. It can be detected and will trigger against targets within its triggering instructions. The rules generally assume an active-automatic mine unless specified otherwise.

(M5.1132) PRE-ACTIVE: When laid in an active mode, mines experience a delay before they become active; see (M2.3) and (M3.223). This is the pre-active period and will end when the requirements to become active are met. A pre-active mine will not trigger on ESG contact (G23.612) or incomplete destruction (M8.425) and will be detected by (M7.34), but is otherwise treated as an inactive mine.

(M5.1133) INACTIVE: Command-controlled mines (and only those mines) can be set to inactive mode (M5.202), in which case they will simply ignore targets but are otherwise treated as active mines. A mine cannot be laid in this mode during a scenario or begin a scenario in this mode (unless allowed by a special scenario rule). An inactive mine will trigger on ESG contact (G23.612) and cannot be detected under (M7.34) [unless it is a sensor mine (M4.56)], but could be detected by (M7.2).

(M5.1134) DISABLED: Certain mines can have their automatic detonators disabled, in which case they will not accept any target, but could be commanded to trigger. These include command-controlled (M5.28) and chain mines (M5.31). A mine cannot be laid in this mode during a scenario, and the mine must be specified as enabled or disabled before the scenario begins. Disabled mines cannot be enabled during a scenario. Disabled mines are harder to detect and gain a benefit under (M7.33) and are not counted for purposes of (M7.1).

A mine with a disabled detonator will not trigger on ESG contact (G23.612).

(M5.12) DETECTION: Target detection ranges up to six hexes (radius of detection zone) can be specified, except for explosive mines which can never have a detection range more than one. Captor and sensor mines usually have detection ranges of six. Note that, as (M2.4) specifies that each hex of movement within the detection range of a mine has a possibility of causing a mine to trigger, there is a high probability of being within detection range of several such mines. Mines can be set for a detection range of zero, but obviously cannot be given a negative detection range.

(M5.13) ACTION: When an automatic mine detects an acceptable target within its specified range, it will take the specified action. Automatic-explosive mines detonate on a die roll (M2.4); automatic-captor mines fire/launch their weapons as per (M4.4). Automatic-sensor mines give orders to other mines to detonate or fire/launch. This reaction to stimuli is known as triggering.

(M5.14) NEUTRALITY: Automatic mines are set to trigger when they detect a unit (only type-D captors can fire at plasma torpedoes) entering or moving through their detection zone. All automatic mines are neutral and will trigger on a friendly unit, should one fulfill the requirements of (M2.14) and (M2.15). They can be set to trigger only for units of certain sizes; see (M5.15) and (M5.16).

(M5.15) SIZE OF TARGET: This "trigger size" is set by the player laying out the minefield. Size is determined by size class (R0.6). The target size and other parameters must be defined before the mine is laid and cannot be changed thereafter. See (M2.14).

(M5.151) Target size can be set for any or all of the eight sizes (R0.6), and not all mines need be set the same. This is a yes/no decision for each of the eight size classes and could be expressed as a range of sizes (or everything except a certain range of sizes, etc.).

(M5.152) An unvoided WW is accepted by a mine as a ship of the size it is simulating (J3.26).

(M5.153) Notes and Advice: Mines in minefields should not be set for drones as this is a cheap way of getting them to detonate, and your own drones launched (by ships or captors) into the minefield will detonate your own mines. (Naturally, empires without drones could set some of their captors to fire at drones.) It would be wasteful for a large mine to detonate when a fighter approached, but if it did not, the fighter might penetrate the minefield and cause no end of mayhem in the defended zone. Thus, it is common for large mines to be surrounded by belts of small mines. (This is one common system of minefield design. It is not the only system.) The large mine is set to detonate only when a ship the size of a PF or larger enters its range. The small mines are set to detonate only when fighters or shuttles enter their detection range. Thus, a cruiser could not "steamroller" the small mines (by moving slowly enough that it can reinforce its front shield to resist the blast), and fighters cannot trigger mines that would "overkill" them.

(M5.16) SET FOR Nth TARGET: An automatic mine could be set to ignore a specified number of acceptable targets before accepting one. See (M2.15) for complete instructions.

(M5.2) COMMAND-CONTROLLED MINES

(M5.20) BASIC RULE: A command-controlled mine has a command communications system and can be given certain simple orders listed below. Commands (M5.202), (M5.203), and (M5.204) can only be given by bases; command (M5.201) can be given by sensor mines or bases. Ships cannot control command mines (any exceptions will be specified). A given mine can accept any number of orders in a single impulse. See the rules below, but particularly (M5.26) and (M5.28).

(M5.201) The mine can be triggered. Explosive mines detonate at the appropriate step in the Damage During Movement Stage (6A3). Captors with direct-fire weapons fire during the Direct-Fire Weapons Fire Stage (6D2) after being allocated in (6D1). Captors with seeking weapons launch them in the Seeking Weapon Stage (6B6). The base does not need to have a lock-on to the target of a captor mine it controls; see, however, (M4.435) which requires the captor mine to have its own lock-on. The base will have to have its fire control active to control the mine (M5.26), but need not have a lock-on to the mine. Mines ordered to trigger do not count against the limit of (M2.443).

(M5.202) Become inactive (ignore all targets). Obviously this can only be given to a mine that is active. All command mines are assumed to begin the scenario in active mode. An inactive command mine can be *ordered* to fire.

(M5.203) Become active (accept targets within pre-established parameters). Obviously, this can only be given to mines previously ordered into inactive mode.

(M5.204) The base can order a controlled mine, which is also linked to one or more sensor mines, to cease accepting commands from a given sensor mine or mines, but in this case cannot use instruction (M5.201); see (M4.552).

(M5.21) USE AROUND BASES: Command-controlled mines are used primarily around bases (of various types). They trigger when they receive commands to do so by subspace radio.

(M5.211) Command mines (a.k.a. control mines) used around bases must be within 50 hexes of the controlling base. Many starbases are surrounded by deep belts of automatic mines, while narrow corridors of command-controlled mines allow friendly shipping to enter.

(M5.212) Most starbases use large numbers of controlled captor mines for additional firepower. Controlled type-A/G/H/J captor mines (M4.41) can launch one round (of ammunition) per impulse while controlled by a base, but obviously cannot launch/fire more rounds during a scenario than they have.

(M5.22) USE IN MINEFIELDS: Command-controlled mines can be triggered by commands received from sensor mines. This (and chain mines, below) are the only times that command-captor mines are deployed in minefields away from bases. (They can, of course, also be used near bases.) The sensor mine must be within fifteen hexes of the command-controlled mine.

EXAMPLE: A minefield could include a row of sensor mines twelve hexes apart, each set for a radius of six hexes. Six hexes behind this row is a row of captor mines, spaced two hexes apart. Each sensor mine controls six captor mines. A ship probing the sensor line would suddenly find six captor mines firing at it from several hexes away.

(M5.23) LAYING: Command-controlled mines cannot be laid or reloaded during a scenario.

(M5.24) SAME HEX: Two command-controlled mines cannot be laid in the same hex. See (M5.34).

(M5.25) MULTIPLE BASES: In the event that two friendly bases are in the same scenario, a given command-controlled mine can only be controlled by one base. The base controlling each mine is recorded in the minefield records before the scenario begins. See also (M4.55).

(M5.26) COMMAND LIMITS: The base must have active fire control (D6.6) in order to control mines. Each command mine ordered to activate, deactivate, or trigger counts as a seeking weapon against the base's control limit (F3.2) for the impulse in which the command is given and the subsequent seven impulses (or as long as any seeking weapons controlled by that captor are in flight, whichever is longer); subsequent commands to the same mine can be made on the same channel as the original command and re-start the seven-impulse count.

(M5.27) PROHIBITED CONTROL: A unit protected by a WW or which is cloaked (or which is using passive fire control) cannot control mines because its fire control is not active (M5.26). A captured unit cannot control mines during the scenario in which it is captured and cannot later control the original owner's mines, even if the original owner recaptures the base.

(M5.28) DUAL-MODE DETONATORS: A command-controlled mine also has an automatic detonator. This automatic detonator can be set like any other automatic mine (M5.1), or it can be disabled (M5.1134), in which case orders (M5.202) and (M5.203) above cannot be given and the mine would gain the (M7.33) benefit. The only possible conflict between the two detonators would be a seeking weapon programmed to launch by a captor mine (M4.425). In such case, the base (or sensor mine) could not override the command or issue a contradictory command; the command from the automatic detonator must be completed. Also note that firing rates must be observed, and firings commanded by the two detonators are counted together.

(M5.3) CHAIN CONTROLLED MINES

(M5.31) USE: Chain controlled mines are used primarily in remote border areas away from bases. Chain controlled mines trigger when they detect another mine detonating [or being destroyed (M5.35)] within a set distance. In effect, chain mines are automatics that trigger as a result of a different stimuli than a target entering their detection range. There is a disadvantage to this, in that sweeping the mines controlling the chain can render it useless.

A chain-controlled mine also has an automatic detonator. This can be set like any other automatic mine (M5.1), or it can be disabled. If the automatic detonator is disabled (M5.1134), the mine gains a benefit under (M7.33).

(M5.32) SENSOR MINES: Sensor mines may be deployed in an inactive mode (M5.1133), waiting for a chain command to order them to activate. Once active, they operate as automatic mines, except that they do not explode; they direct other mines to explode or fire/launch. For example, a minefield might have explosive mines in row xx20 (facing the enemy), sensor mines (tied to chain detonators) in row xx24, and captor mines (tied to the sensor mines) in row xx30. Friendly ships could operate safely up to row xx22, knowing that the sensor mines will not be activated until one of the explosive mines in the front row explodes.

(M5.33) EXPLOSIONS: Chain mines are set to trigger when they detect a nearby explosive mine trigger. (They cannot be chained to captor or sensor mines.) This could be a specific mine or any one of a group of up to six. The specific mines must be recorded in writing before the scenario begins as part of the minefield records. (Other types of explosions will not trigger these mines.) Note that, should a mine be "swept," it will not trigger and the chain mines will not detonate. [See (M5.35) for an exception.] The maximum range at which a chain mine will accept a stimuli is twenty hexes.

(M5.34) MULTIPLE CHAINS: Chain and deadman detonators can be connected to several mines. This can produce an exception to the general rule (M2.443), in that several mines might detonate simultaneously. Two chain or deadman mines cannot be placed in the same hex. See (M5.24). Two chain mines, two deadman mines, or one of each would violate this rule.

(M5.35) DEADMAN MINES: Chain mines can also be set to trigger if a given mine (or one of several given mines) is destroyed (even if by sweeping), but this requires the specific triggering mine to broadcast a continuous signal that will reveal the existence of chain mines. This is generally known as a "deadman" switch (i.e., it only operates when it is turned off). See (M6.1) and (M7.22) for the penalty for this type of detonator.

(M5.36) CHAIN MINE EXAMPLE: A large explosive mine, such as the NSM from (M2.0), is set in hex 1010 with an automatic detonator. Additional large explosive mines (with chain detonators set to detect the explosion of mine #1010) are placed in hexes 0911, 0910, 1009, and 1011. A ship moving into hex 0810 would not detect or be attacked by the chain mines since they emit no energy and have not detected the explosion that would trigger them. The ship enters hex 0910 and attempts to sweep the mine in hex 1010. A failure results in the mine in 1010 detonating (damaging the ship). The other mines detect this explosion and also detonate. (This is treated as a simultaneous detonation.) Thus four additional mines trigger and severely damage the ship. To add insult to injury, a captor mine (with a chain detonator) in hex 1212 detects the explosions and launches a plasma torpedo at the ship. While a ship encountering such a minefield is going to have its problems, minefields of this strength obviously cannot be emplaced everywhere.

(M5.37) ACTIVATING/DEACTIVATING MINES: In a manner similar to activating sensor mines (M5.32), a chain-controlled mine can be set to activate or to deactivate its automatic detonator instead of triggering when a nearby mine explosion occurs. The target settings for the automatic detonator are required to have been set before the scenario begins.

(M6.0) MINEFIELDS

A properly constructed minefield can delay or completely stop the movement of enemy ships. Many campaigns have hinged upon one or more enemy ships being crippled by a mine and forced to retire to a starbase.

Minefields are primarily of two types: area and point defense. Area minefields are placed along borders to give a warning of intruding enemy ships and slow them down until friendly ships assigned to the sector are able to respond. Point defense minefields are set up around planets or bases to help defend against enemy ships. Individual mines used during ship-to-ship scenarios are not included in a minefield, although they could be added to an existing one.

Minefields will normally consist of several types of mines. The main belt will consist of large automatic explosive mines, possibly surrounded by small automatic explosive mines to keep fighters and minesweeping shuttles away. A solid belt of large mines is unlikely, but most minefields include a double belt of small mines to stop fighters from penetrating.

Captor mines are usually employed outside of the main belt. Many are placed behind the belt to "defend" it against minesweepers, but some are placed outside of it (with chain controls) to launch seeking weapons back into the belt, trapping enemy ships between seeking weapons and the mines. In frontier areas, sensor mines are placed behind the minefield, controlling nearby but silent large captor mines.

The strength of a minefield is in direct proportion to the number of mines included in it, and mines are expensive. Further, minefields cannot be left in place for decades (or even months) without many individual mines suffering mechanical breakdown (or enemy snooping). Usually, the only border areas mined with any seriousness are those in the vicinity of planets visited by convoys.

(M6.1) MINEFIELD DEPLOYMENT

Minefields are deployed using hidden deployment (D20.0). The player controlling the minefield (known as the MFC or Mine Field Controller) records the hex number of each mine and all information about it. The specific information required is:

- Size (large or small)
- Type (explosive, captor, sensor, dummy, etc.)
- Control system (automatic, command, chain, deadman)
- If automatic, the detection range, size of target it will accept, and any Nth target delay (M5.1).
- If chain (M5.33), the specific mines, that will trigger it.
- If captor (M4.41), the type of weapons it is carrying.
- If sensor (M4.51), what it is to do when it detects a target (e.g., order a nearby captor mine to fire).
- A single number between one and six. This is the mine's individual detection number; see (M7.22). If the mine has a "deadman switch" (M5.35), and only in that case, two different numbers must be selected.

(M6.2) TYPICAL MINEFIELD

A "Standard Minefield" (used in many scenarios) consists of:

- 15 large explosive
- 40 small explosive
- 3 large captor
- 7 small captor
- 4 sensor

All must be deployed within a designated "mine belt" that is five hexes deep and the width (30 hexes) of the map, except that the sensor and captor mines may be deployed up to six hexes from the belt on either side. Note that this minefield represents only a part (conveniently the width of the map) of a much larger minefield.

The explosive mines and four of the small captors are automatics; the other six captors can be controlled by the sensor mines [or the base, if the minefield was purchased under (M6.33)]. Eleven mines can be set up as chain or deadman type mines.

A player using this type of minefield deploys it by (M6.1). All of the mines must be deployed before the scenario begins.

See (M2.9) for dummy mines.

(M6.3) MINE COSTS

The costs of mines (for purposes of setting up a player-designed scenario) is based partly on the individual cost and partly on the assumption that only a small part of any minefield will actually be used.

(M6.31) COST OF MINES PURCHASED INDIVIDUALLY: When individual mines are purchased in small numbers for specific uses, the costs are shown on the chart below:

Size	Explosive	Captor	Sensor
Small	1	3	3
Large	3	6	NA

These costs are for mines already placed on the map before the scenario begins. If the mine has a chain, deadman, or command detonator, add one point to the cost.

Mines carried on ships, including minesweepers and minelayers, are purchased under the Commander's Option Package (S3.2) and cost considerably more. Note that minesweepers (M2.78) and minelayers (M2.79) buy mines for their mine racks under the costs listed in Annex #6 but are not under the 20% limit of (S3.2); see (M9.17).

Mines cannot be placed within eleven hexes of the entry or set up hexes of the enemy force unless specifically exempted by the scenario.

(M6.32) COST OF A STANDARD MINEFIELD: A group of mines as defined in (M6.2) are available as a package at a total cost of 100 points, a considerable discount. This includes drones at the current General Availability speed at no additional cost.

(M6.33) COST OF MINES DEPLOYED AROUND BASES: In the case of a multi-map scenario in which a minefield is to be deployed entirely around the base (or planet), the player may purchase one, two, three, or six packages, paying 1/2 of the total cost given in (M6.32). The player may buy, at the costs in (M6.31), additional individual mines, control systems, etc. There is no limit to the number of mine "belts" that might be deployed around a base, but it would not be a good investment of BPV as no more than six packages of mines may be purchased.

(M6.331) The mine belt is defined as a sector five hexes wide and encircling the base at a constant radius. (For example, a radius of eleven-to-fifteen hexes could be specified.) It is divided into six segments, each covering one 60° segment of the belt. If one package was purchased, the mines can be distributed anywhere in the belt. Two packages are each distributed over three adjacent and exclusive segments. Three packages are each distributed over two adjacent and exclusive segments. Six packages are each distributed over one exclusive segment. The hex row forming the boundary between segments can have mines of either or both or neither group. As per (M6.2), captor and sensor mines can be up to six hexes from the belt.

(M6.332) In addition to the above directions, each of the six segments must have at least 10% of the total number of mines. (If six packages were bought, each segment would by definition have no more or less than 16.667%.) Any additional individual mines can be placed without restriction.

(M6.34) CAMPAIGN: If the scenario is part of a campaign, the following procedures take place between scenarios:

Any damaged but not destroyed mines are destroyed between scenarios (M8.426).

All remaining mines reset to their original instructions, resetting any "target delay" counts (M6.1) back to zero. All mines receive new detection numbers.

The MFC player can reset the instructions of surviving mines if the minefield surrounds a base or planet, including their detection numbers.

Any T-bombs or NSMs laid during a scenario by either side become inert or self-destruct, including mines laid by minelayers or minesweepers.

New or additional mines provided by campaign rules can be added to the minefield if any such are available.

Unless otherwise restricted, any drone (or anti-drone) or plasma-D armed captor mines are fully reloaded.

Control, chain, or deadman switches cannot be added to any mine that is part of an existing minefield, but can be part of mines added to an existing field.

(M6.4) DEPLOYMENT OF A TYPICAL MINEFIELD

A typical package of mines (M6.2) might be deployed as a linear minefield as listed below:

Large explosive mines (set for ships):
2301, 2203, 2306, 2108, 2309,
1911, 2112, 2313, 2214, 2317,
2119, 2321, 2324, 2226, 2329.

Small explosive mines (set for fighters and PFs):
1901, 1903, 1905, 1907, 1910, 1914,
1917, 1920, 1923, 1924, 1927, 1929,
2003, 2006, 2012, 2014, 2016, 2018,
2021, 2025, 2102, 2105, 2107, 2109,
2110, 2122, 2123, 2129, 2201, 2211,
2215, 2220, 2224, 2229, 2304, 2307,
2311, 2315, 2319, 2327.

Small automatic captor (set for shuttles/fighters, and intended to pick off MSS although they will fire on any size-6 target):
2406, 2412, 2418, 2424.

Sensor mines (set for ships): 1606, 1612, 1618, 1624.

Small captors controlled by sensors:
2006 (#1-1606, #2-1612)
2015 (#1-1612, #2-1618)
2024 (#1-1618, #2-1624)

Large captors controlled by sensors:
2806 (#1-1606, #2-1612)
2815 (#1-1618, #2-1612)
2824 (#1-1624, #2-1618)

For purposes of this example, chain and deadman detonators are not defined.

(M7.0) DETECTING MINES

The real problem with minefields is that the mines cannot be detected from any significant distance (M2.6). To simply detect that a minefield is present is a time-consuming task; locating the individual mines is tedious and extremely dangerous work. Many minesweepers have detected the minefield only after entering it.

(M7.1) DETECTING A MINEFIELD

(M7.11) GENERAL: If a ship (not a PF or shuttle) is within ten hexes of at least six automatic mines that were placed before the scenario began, the MFC must announce that a minefield has been detected. Mines with disabled detonators (M5.1134) do not count for this purpose. PF scouts using (G24.26) function as ships; other PFs will detect a minefield at a range of five hexes. Probes and probe drones cannot detect minefields, but can identify individual mines under (M7.52).

(M7.12) INFORMATION: When a given ship has detected a minefield the MFC must give the distance from that ship to the nearest mine and announce that a minefield has been detected under (M7.1).

(M7.13) TIMING: This announcement is made only once per turn (for each side in the scenario), during the first Final Movement Actions Stage (6A4) when it applies.

(M7.2) DETECTING INDIVIDUAL MINES

(M7.21) METHOD: To detect individual mines, the ship must attempt to scan them with its sensors. (Note below that only mines in an automatic mode can be detected by this method.) This can be done once in any period of eight consecutive impulses [during the Ship System Functions Stage (6B4) of the Impulse Activity Segment] but costs one energy point (either allocated or reserve power) per attempt. It is directed at all mines in the vicinity, not at any specific mine.

Minesweepers and X-ships can roll once in any period of four consecutive impulses.

(M7.22) PROCEDURE: The player rolls a single die. If the result equals the individual mine detection number for any given mine (M6.1) within the detection range (M7.32), the MFC must designate the size and hex of that mine; Exception (M7.33). If more than one detected mine is in the same hex, the MFC must identify them individually. He need not designate if the mine has a "deadman switch" (M5.35); that may become apparent when a mine in a given hex is detected on two different numbers. Electronic warfare has no effect on this procedure.

(M7.23) COUNTER: Once a mine is detected, a counter for the mine should be placed on the map.

(M7.24) EXAMPLE OF DETECTING MINES: There is a minefield on the map. It includes mines which are listed below by an identifying letter, their hex number, and detection number.

A-0719-1	G-0922-1	N-1212-1	U-0504-1
B-0814-2	H-1111-2	P-0820-2	V-1206-2
C-0517-3	J-0812-3	Q-0606-3	W-0710-3
D-1011-4	K-1010-4	R-0704-4	X-0916-4
E-0616-5	L-0305-5	S-1004-5	Y-0314-5
F-0912-6	M-0411-6	T-1117-6	Z-1105-6

A ship, planning to investigate this minefield, is in hex 1510, moving at a speed of six or less as required by (M7.31). The ship makes an attempt by spending the one point of power and rolling a die. The result is "4." According to rule (M7.22), any mine within six hexes with a detection number of "4" must be revealed to the ship. Mines D and K are revealed; mines R and X are beyond the six-hex range and are not revealed.

On a later attempt from hex 1406, the ship rolls a "5." Mine S is detected, but mines E, L, and Y are beyond range.

An attempt by a ship in hex 1208 with a die roll of "3" would detect mines J, Q, and W.

(M7.25) BLIND MINE DETECTION: With the services of a non-playing judge, extra tension can be added to this rule. Have the judge study the minefield player's records and roll the die for the detecting player. The detecting player knows what he has found, but not what die rolls found it. He will not know if all six possible die rolls have been made. The minefield player does not know which mines have been detected (i.e., don't place the counters on the map). The judge will inform the detecting player if a mine is detected by two different die rolls.

(M7.3) DETECTION CONDITIONS

These conditions apply to the procedures in (M7.1) and (M7.2).

(M7.31) SPEED: To attempt to detect individual mines, the ship must be traveling at an effective speed (C2.45) of six or less. The ship cannot be using Erratic Maneuvers (C10.514) when attempting to detect individual mines, but can use Erratic Maneuvers when attempting to detect a minefield.

(M7.32) RANGE: Most starships (exceptions are noted below) can detect individual mines (M7.2) at ranges of up to six hexes.
(M7.321) Minesweepers, X-ships, and ships with scout functions (G24.26) can detect mines at up to ten hexes.
(M7.322) PFs, with more limited sensor rigs, can only detect mines three hexes away. Scout versions of PFs can detect mines six hexes away if using (G24.26). Manned (not remotely operated) Minewarfare PFs (PFMs) are treated under (M7.321); see (M2.85) and (R1.PF4).
(M7.323) Shuttles (including MRS and SWAC) and fighters cannot detect mines. A SWAC shuttle can use one of its channels for (G24.26) to detect mines at up to six hexes range (J9.12).

(M7.33) UNDETECTABLE MINES: Chain (M5.3) and command-controlled (M5.2) mines with their automatic detonators disabled (M5.1134) cannot be detected by any means except (M7.4). They are too small, are not radiating any energy, and are shielded by sensor-absorbent coatings. Exception: Deadman switch mines (M5.35).

(M7.34) AUTOMATIC DETECTION: If a ship with active fire control (D6.6) moving Speed 6 or less (M7.31) enters the detection range (M5.12) of an active automatic mine (the mine's detection range, not the ship's detection range), it detects that mine on a die roll equal to or less than the ship's sensor rating. A mine counter is placed on the map. The ship then knows the size and location of that mine.

This is not as academic as it might appear, i.e., it is far from certain that any such mine would detonate when detected. As the ship can only trigger one mine for each hex of movement (M2.441), a ship entering a dense mine belt would quickly detect many mines that had not (yet) exploded.
(M7.341) The die roll is made whenever the ship enters a qualifying hex. See exceptions in (M7.33); the conditions of (M7.31) and (M7.32) do not apply. Electronic warfare has no effect on this procedure.
(M7.342) This procedure does not require any energy, but the ship must have active fire control (D6.623), and any sensor damage will make the chances of detection less than automatic.
(M7.343) Shuttles cannot detect mines by this procedure; exception (M7.323).
(M7.344) Ships with disrupted (D6.68) or low-powered fire control (D6.7) cannot detect minefields or individual mines.
(M7.345) A mine which becomes active while a ship is in its detection zone is treated as if the ship has just moved into its detection zone even if the ship does not move.

(M7.4) SPECIAL CONDITIONS, CAPTOR MINES

(M7.41) LOCK-ON: A ship with active fire control (D6.6) can roll immediately for a lock-on against any captor mine (even a chain or command-controlled one with a disabled detonator) that fires/launches a weapon during the impulse of firing/launching. In such cases the maximum sensor rating is "4" even if the ship has a higher rating. This die roll is not affected by EW shifts. The speed of the ship and range to the captor mine have no effect.

(M7.42) RETENTION: Once achieved, the lock-on can be retained by rolling (with a maximum rating of "4") at the start of future turns. The speed of the ship can be no more than six or lock-on is lost immediately. Other conditions of lock-ons (range, blocking terrain) also apply. If the ship's fire control is disrupted (D6.68), switched to passive (D19.0) or to low-power (D6.7) the lock-on is lost.

(M7.43) RANGE: This lock-on may be at ranges beyond where minesweeping (M8.0) is possible, but if lock-on is retained, it will enable the ship to get close enough to sweep a command-controlled captor mine.

(M7.44) SHIPS ONLY: This procedure applies only to ships and PFs, not to shuttles or seeking weapons. Exception: SWACS (M7.323).

(M7.5) IDENTIFYING MINES

(M7.51) LABS can be used to determine the specific type and subtype of a mine that has been located. The procedure from labs identifying seeking weapons (G4.2) is used. Minesweepers receive a +2 bonus to this die roll. A unit must have a lock-on to a mine to identify it.

(M7.52) OTHER MEANS: Aegis (D13.3) cannot identify mines. Scouts (including SWACS) can use (G24.25) to identify mines. Probes (G5.25) can be used to identify mines. A probe drone (FD6.0) that reaches the hex of a mine can identify that mine as a probe under (G5.25).

(M7.53) REQUIREMENT: No mine can be identified until it has been detected and located.

(M7.54) INFORMATION GAINED: Identification will indicate the size (M4.1) and type (M4.2), but not the target programming (target sizes, firing arcs, priority of sensor mines, control status, etc.) of the mine. A dummy mine will be reported as a normal mine.

(M8.0) MINESWEEPING

Minesweeping is the process of destroying mines without detonating or triggering them. Minesweeping can only be carried out on detected and located mines (M7.0). [Mines detected only by (M7.1) have not been located and cannot be swept.] There are three primary methods: phasers, seeking weapons, and minesweeping shuttlecraft/PFs. While any unit can use phasers and seeking weapons for minesweeping, specialized minesweepers have certain advantages (M2.45). Minesweepers are described as such in their ship descriptions and noted on Annex #3.

(M8.1) SWEEPING BY PHASERS

(M8.11) PROCEDURE: To sweep a mine with phasers, the ship must:

be adjacent to or in the same hex as the mine,
be at a speed of zero,
have achieved a lock-on (M8.14),
and hold the mine in one of its tractor beams (G7.271).

If all of the conditions are met, phasers can be fired at the mine under the terms of (M8.4). A unit that is unable to move can sweep mines adjacent to itself under the provisions of this rule.

(M8.12) PENALTY FOR NON-MINESWEEPERS: Non-minesweepers have a penalty of six ECM points, which cannot be offset by ECCM (+2 die roll modifier if not using electronic warfare) when firing at a mine. Minesweepers, which have sensors specially calibrated to fire at mines, ignore this penalty.

(M8.13) OFFENSIVE ECM: A ship can use ECCM to counter any offensive ECM (G24.219) applied to it by enemy units.

(M8.14) LOCKING-ONTO A MINE: To achieve a lock-on, the ship must detect and locate the mine and then roll for a lock-on with a maximum sensor rating of four. Another way to achieve a lock-on is found in (M7.41).

No more than one attempt can be made to lock-onto a given mine each impulse.

(M8.2) SEEKING WEAPONS

(M8.21) PROCEDURE: Seeking weapons can be launched at mines by ships (not shuttles) if they have a lock-on (M8.14). The launching unit must be at Range 1 or Zero. The mine does not have to be held in a tractor beam to be engaged with a seeking weapon. The unit launching the seeking weapon at the mine can be moving at any practical speed (C2.411) from zero to six hexes per turn. [Faster speeds would prevent the ship from maintaining a lock-on to the mine (M7.3).]

NOTE: Drones must be launched by a ship which has a lock-on to the mine, type-IIIXX drones cannot target mines as part of their (FD5.25) programming, ATG drones and type-VI drones cannot seek mines from longer ranges or when released from scatterpacks.

(M8.22) DAMAGE: The seeking weapon(s) must score six points of damage to destroy a large mine (four to destroy a small mine); otherwise see (M8.4).

(M8.23) TYPE-VI DRONES do normal damage against mines (FD2.54), i.e., as if the mine were a fighter.

(M8.24) NON-MINESWEEPERS have the ECM penalty of (M8.12) and (M8.13). The (D6.361) penalty does not apply to type-VI drones.

(M8.3) MINESWEEPING SHUTTLECRAFT AND MINE WARFARE PFs

(M8.31) OPERATION: Modified administrative shuttlecraft known as Minesweeping Shuttles (MSS) can be used for minesweeping. See (R1.F2).

(M8.311) Because no admin shuttlecraft could survive a mine explosion, all shuttles used for this work are operated by remote control, as defined in (R1.F2). See (M8.32).

(M8.312) MSS are carried by all minesweepers. Two of the admin shuttles on a minesweeper are MSS. (If there is only one shuttle, it is an MSS.) Minelaying freighters (R1.12) do not have MSS shuttles, but use MLS shuttles (R1.F6) instead.

(M8.313) Non-minesweepers do not normally carry MSS, but they could do so on occasion. MSS can be purchased under the Commander's Option Package (S3.2).

(M8.32) PROCEDURE: To destroy a mine, an MSS must move into the mine's hex under remote control (R1.F2). Once there, assuming that the mine has not detonated, roll a single die.

A result of one-to-four destroys the mine but not the shuttle.

A result of five destroys the mine. If it is an explosive mine, it detonates. If it is another type of mine (e.g., captor, sensor), its anti-tamper "salvage" charge explodes causing ten points of damage to the minesweeping shuttle [or minesweeping PF (M8.33)]; no other unit is damaged by the anti-tamper device since it only affects things in close proximity.

A result of six means that nothing has happened; the MSS is still trying to sweep the mine. An additional die roll can be made every impulse.

EW has no effect on this die roll. It is theoretically possible for an MSS to sweep 32 mines in a single turn provided it began that turn in a hex with 32 mines, or was able to move to hexes with more mines on each of its movements.

NOTE: Salvage charges have only enough explosive force to destroy the mine, and anything in their immediate vicinity such as an MSS shuttle, and are otherwise irrelevant to the game.

(M8.33) MINE WARFARE PFs (R1.PF4) can also use the remote-control rules (R1.F2), except that the PF can probably survive the explosion of a small mine (die roll five).

(M8.4) DESTROYING MINES

(M8.41) DAMAGE REQUIRED: Six points of damage must be scored to destroy a large mine (four points to destroy a small mine). If this amount of damage is scored, the mine has been destroyed without triggering.

(M8.42) INCOMPLETE DESTRUCTION: If a mine is hit by phasers or seeking weapons but not destroyed, it will take the following action depending on type. See (M8.424) in the case of a disabled detonator (M5.1134); inactive mines (M5.1133) are treated as active mines (M5.1131) for this purpose.

(M8.421) EXPLOSIVE mines will detonate irrespective of other targeting data previously programmed. Dummy mines (M2.9) will not explode.

(M8.422) CAPTOR mines will fire direct-fire weapons at any unit that fired on them (including guiding a seeking weapon to the mine or hitting the mine with an ESG); they cannot explode. This weapons fire will be resolved immediately (in the same impulse), but after the damage to the mine is resolved. A captor mine armed with seeking weapons which survives being fired at will launch a seeking weapon at the next opportunity within the normal Sequence of Play. Any firing or launching of weapons must be within the mine's normal rate of fire; if the mine is not eligible to fire/launch, e.g., it has already done so that turn, the stimulus will be ignored. Damaged captor mines retain their full armament.

(M8.423) SENSOR mines are unaffected until destroyed. Sensor mines never explode, even if damaged.

(M8.4231) If a damaged sensor mine controls any explosive mines adjacent to the unit that attacked them, it will order these mines to detonate.

(M8.4232) If a damaged sensor mine controls any captor mines, the sensor mine will order them to fire on the unit that attacked the sensor mine.

(M8.4233) This action ignores any other information set in the mine for this purpose. For example, a sensor mine will order captor mines linked to it (even those programmed to engage only size class six targets) to engage a size class four (or larger or smaller) minesweeper.

(M8.4234) A damaged sensor mine will order explosive mines linked to it which are in the same or an adjacent hex to the sweeper to detonate. The mines will detonate, even if they or the sensor mine controlling them were not originally set to accept the sweeping unit as a target.

(M8.424) DISABLED: Any mine with a disabled detonator (M5.1134) will ignore all of (M8.42) and will not react to incomplete destruction.

(M8.425) PRE-ACTIVE: Mines in the pre-active period (M5.1132) will ignore all of (M8.42) and will not react to incomplete destruction.

(M8.426) Incompletely destroyed mines will self-destruct harmlessly between scenarios.

(M8.5) CONDITIONS AND RESTRICTIONS

(M8.51) GATLINGS: Some minesweepers use gatling phasers because they can fire up to four times in the same impulse. The player must specify in advance how many times that phaser will fire during that impulse. All of these firings are resolved before judging incomplete destruction (M8.42). Even if the gatling phaser could fire again on the next impulse, the mine will trigger if incompletely destroyed within the restrictions of (M8.42).

(M8.52) PHASERS ONLY: Note that other direct-fire weapons (such as disruptors or photon torpedoes) cannot be used for minesweeping because they lack the pin-point accuracy of phasers or seeking weapons. While their use could be attempted in dire straits (from a range of zero or one), the probability of accidentally detonating the mine is 99.9978% (roll a "one" six consecutive times for successful sweeping).

Exception: Anti-Drones can also be fired at mines (E5.33).

(M8.53) EXPLOSIONS: Mines are shielded against the effects of explosions (self-destruction, other mines) and WW collateral damage. See (M2.22).

(M8.54) AEGIS: Aegis fire control (D13.0) cannot react fast enough to allow two or more attempts to destroy a mine in a single impulse.

(M8.6) EXAMPLE OF MINESWEEPING

There is a mine in hex 1010. A minesweeper enters hex 1110 and stops to begin an attempt to sweep the mine. There is a possibility that the mine will trigger (M2.4), and this must be resolved at the time the ship enters the hex.

The ship now attempts to gain a lock-on to the mine. Since its sensors are undamaged, it has a sensor rating of six. However, rule (M8.14) limits this to a rating of four. The ship rolls a "5," indicating no lock-on, and must wait for the next impulse. (It can't detonate the mine if it does not move. However, it is still in tactical danger because something else could detonate the mine and because being stopped in the middle of a battle tends to attract unwanted attention.)

On the next impulse, the die roll is "3" and a lock-on is achieved. The ship now uses (M7.5) to identify the size and type of the mine. Since the range is one and a minesweeper has a +2 bonus to the roll, the mine will automatically be identified. In this case, the minesweeper determines that it is adjacent to an NSM. The ship now uses a tractor-beam to grab the mine and is ready to fire at it. The ship can fire any number of available phasers, but if the first salvo fails to destroy the mine, it will trigger instead. For example, if the ship fired only a single phaser-1, die rolls of three, four, five, or six would yield less than six points of damage and result in an explosion. Firing two phaser-1s would guarantee successful sweeping, and for efficiency the sweeper fires them as phaser-3s (E2.25) to save power as two phaser-3s are guaranteed to kill any single mine.

(M9.0) MINELAYING

During the course of a scenario, mines may be laid by one of two methods. Small mines can be placed by transporter; see (M3.0). Large or small mines can be laid directly (in the hex occupied by the ship); see (M2.0).

While all minesweepers (M8.0) can lay mines, there are special dedicated minelayers (R1.12) which, being more efficient, do the majority of actual minelaying.

(M9.1) MINE STORAGE BOXES

(M9.11) MINE RACKS: Minesweepers and minelayers are equipped with mine storage boxes (mine racks) on their SSD sheets. Each such box holds four large mines. Two small mines can be substituted for one large one. Note that, when extensive minefields are laid, this is done by specially equipped freighters (R1.12). The mines held in mine racks do not come with free dummy mines as T-bombs (M3.224) do.

(M9.12) PURPOSE: Minesweepers, which operate extensively in border regions, carry a few mines (usually twenty-to-30) to "patch holes" in friendly minefields. It can also be particularly effective in minefield probing scenarios to remove enemy mines and replace them (in slightly different locations) with your own. The mines carried by minesweepers are those in the mine racks. There are no "reloads" for these mine racks.

(M9.13) DAMAGE TO MINE RACKS: Cargo hits may be scored on mine rack boxes and must be scored on them if no other cargo boxes are available. Shuttle hits must be scored on shuttle or mine rack boxes if any of either type exist. See Annex #7E. The mines on a destroyed rack are also destroyed (but will not detonate).

(M9.14) NON-MINE SHIPS: Non-minelaying ships cannot carry mines except as per (M3.1) or (M2.7).

(M9.15) T-BOMBS: Minelayers can carry additional small mines as per (M3.13) and can use them as transporter bombs (M3.0) as any other ship. Small explosive mines removed from the mine racks (M9.19) can also be used as T-bombs on the following turn.

(M9.16) CONVERSION: Ships modified by (S7.0) to carry mines in the shuttle bay are not considered minesweepers for any purpose. Orion ships with mine racks added by Annex #8B or (R8.R1) are not considered minesweepers.

(M9.17) BPV: The BPV of a minesweeper or minelayer does not include its mines. These are purchased as Commander's Option Items (S3.2), but mine purchases by minesweepers are not restricted to a percentage of the BPV (M6.31). Essentially, the cost of mines in mine racks is part of the overall force total, not a part of the cost of the minesweeper.

In some published scenarios, perhaps where a minesweeper or minelayer is surprised by enemy units while going about its normal business, an exemption to this cost may be specified in the scenario.

(M9.18) SHUTTLES LAYING MINES: Certain shuttles can lay mines. These include the MRS (J8.21) and MLS (R1.F6). MLS shuttles can only be carried by certain units. Any MRS shuttles would be counted within the limit on the number of allowed MLS.
(M9.181) Minelayers can have one MLS replacing an admin shuttle, without extra cost, and may purchase up to two more under (S3.2) to replace admins if it has shuttle bay space.
(M9.182) Minesweepers can purchase one MLS (which replaces one MSS) under (S3.2).
(M9.183) Starbases can have two MLS, purchased under (S3.2). If using (R1.1G5), starbases have MLS listed in that rule.
(M9.184) Battle stations can have one MLS, purchased under (S3.2), but only if they have no MRS. If using (R1.1G5), battlestations have MLS shuttles listed in that rule.
(M9.185) Mines laid by shuttles which then land in (J1.6) (including landing on a balcony) or dock to a larger unit (C13.0) while still in its detection radius will not arm (M2.3) under (C13.19).
(M9.186) Other bases have MLS shuttles if using (R1.1G5).

(M9.19) LOADING AND UNLOADING: Mines are difficult and dangerous to handle, and the racks were not designed to make this any easier. A ship with mine racks can load or unload one large mine from any one of its racks during one turn. (This might be done to transfer the mines to another ship or for some other reason.) The rack must be taken out of service for the entire turn for this to be done. Use the procedure in (FD2.42). Two small mines can be substituted for one large mine.

(M9.2) CONDITIONS AND RESTRICTIONS

(M9.21) RATE: Ships can lay one mine from each mine rack during each turn. Only minesweepers and minelayers use these rates to lay mines.

Other ships converted (S7.0) to carry mine racks drop mines through the shuttle hatch at the rate of one per turn per shuttle bay, regardless of the number of racks in the bay. Orion ships with mine racks in option mounts (Annex #8B) can drop one mine per such rack, but mine racks in shuttle bays (R8.R1) are limited to one mine per turn per bay (not per box of a given bay).

(M9.22) TRANSPORTERS: See (M3.22) for the procedure to lay small mines by transporter.

(M9.23) MINES WHICH CANNOT BE LAID DURING A SCENARIO: Captor and sensor mines, as well as any type of control, chain, or deadman switch mine, cannot be laid during a scenario. (It could be assumed that any minelayer or minesweeper might have captor mines on board for use in setting up minefields, but as they cannot be laid during a scenario this aspect is easily ignored.)

(M10.0) POWER ABSORBER MINES

Power Absorber Mines (PAMs) are used by the Andromedans as a defense against plasma torpedoes. They were first observed in Y170 and used thereafter.

PA mines are NOT "mines" in the traditional sense. They do not explode, and they do not have a "detection radius" per se. They are transported directly into a plasma torpedo and can affect only that specific torpedo. The concept of "minefields" of these mines is totally unworkable since each mine would be able to stop only those torpedoes that (by dumb luck) happened to directly hit them. There cannot be command-detonated or chain-detonated PA mines since the PA mine only works if the torpedo strikes it directly.

(M10.1) GENERAL

(M10.11) STATUS: PA mines are the same size as T-bombs. An Andromedan ship can replace some or all of its T-bomb storage with PA mines, i.e., it can purchase PA mines instead of T-bombs, with the total of both restricted by the overall limit on the number of T-bombs provided in (M3.13).
(M10.111) The Andromedan player should write the letter "P" in the T-bomb box for each T-bomb replaced with a PA mine. In cases where it is important to insure that this notation is not changed during play (e.g., in tournaments), the Andromedan player should cover the record track with clear tape or use indelible ink.
(M10.112) PA mines are the size of T-bombs. There is no NSM (i.e., large) sized version of the PA mine.

(M10.12) COST: PA mines can be purchased as Commander's Options at the same cost as T-bombs.

(M10.13) HANDLING: PA mines are, in all ways except as provided by (M10.2), handled as T-bombs. This includes for the purposes of storage, cargo transfer, etc.

Exception: PA mines are not explosive ordnance (G25.3).
(M10.131) There is no dummy PA mine, but each PA mine comes with one dummy T-bomb (M3.224).
(M10.132) Ships carrying PA mines cannot transfer energy to or from them.
(M10.133) Once used, PA mines are destroyed (M10.22) or become inert (M10.212) and cannot be transported back aboard or recovered in any other way.

(M10.14) TECHNOLOGY: Like all Andromedan technology, other empires cannot copy, produce, buy, or use PA mines.

(M10.2) OPERATIONS

(M10.21) PLACEMENT: PA mines are placed in the same manner as T-bombs, i.e., by transporter (M3.22) or by dropping them from the (R10.1D42) hatch (M3.21). They are not under the restrictions of (M3.22).
(M10.211) PA mines placed by transporter become active immediately, rather than waiting two impulses as provided by (M3.223). (Since a T-bomb explodes, it cannot use this system.)
(M10.212) Transported PA mines which are not placed (by transporter) into a plasma torpedo become inert immediately. PA mines dropped from the hatch become inert immediately. In this condition, they can only affect ESGs (M10.2232). Inert PA mines cannot be recovered. It is impossible to place a PA mine in the anticipated path of a plasma torpedo because a miss of only a few meters would be a complete miss, and the path of a plasma torpedo cannot be calculated that accurately. This supersedes (M3.223) and (M3.226).
(M10.213) The type of terrain a PA mine is placed in has no effect on the mine, but might block the use of transporters. See (P6.0) Nebulae and (P11.0) Sunspot Activity. Either the mine is placed into a plasma torpedo (M10.22), or it becomes inert (M10.212).
(M10.214) The effects of electronic warfare (D6.37) on the ship could cause placement of the PA mine to fail, i.e., to miss the plasma torpedo. In this case, the mine is placed into the designated hex, but has no effect on the torpedo and becomes inert immediately. (The chances of accidentally landing in another plasma torpedo in the same hex are several billion to one and can be safely ignored.)

(M10.215) Two or more PA mines can be simultaneously transported into a single plasma torpedo; each requires a separate transporter.

(M10.22) EFFECT: The only effect of a PA mine is to reduce the warhead of the one plasma torpedo (including X-plasma torpedoes) into which the mine has been placed by 25 points. This takes effect at the instant that the mine is transported. If the torpedo is smaller than that, any surplus capacity is lost. The PA mine is destroyed by the act of draining energy from one plasma torpedo.

PA mines will have no effect on anything else [except an ESG field (M10.2232)]; they cannot stop drones, shuttles, or other seeking weapons.

(M10.221) Each PA mine affects only one plasma torpedo. If transported into a hex with several torpedoes, the Andromedan player selects the specific torpedo to be affected.

(M10.222) If the plasma torpedo is a PPT, the PA mine will transmit a signal to the ship which laid it, identifying the torpedo as a PPT. The mine then becomes inert and is unrecoverable (M10.212). The PPT is unaffected.

(M10.223) The PA mine does not explode and cannot damage or affect any unit except:

(M10.2231) Plasma torpedoes (M10.22).

(M10.2232) ESGs treat an inert PA mine as an inactive T-bomb (G23.61). (It is impossible, under the rules, for an ESG to strike an active PA mine.) A PA mine cannot draw energy out of an ESG as a PA panel on a ship would.

(M10.2233) PA mines have no effect on plasmatic pulsar devices, even though these are plasma-based weapons.

(M10.224) If the plasma torpedo is an enveloping type, the total warhead strength (after doubling) is what is affected. An enveloping type-S (nominal warhead 60 points) would be reduced to 35 points.

(M11.0) TRANS-CAPTOR MINE

The Andromedans operated a unique type of mine known as the Trans-captor (short for Transporter-Captor) mine. The Trans-captor mine contained four T-bombs (or PA mines) and a transporter able to deploy them. The Trans-captor was used as an active defense system around Andromedan bases. These mines were found around the first Andromedan bases encountered in Y171.

While similar in many ways to a captor mine, Trans-captors are governed by the rules below and not by the (M4.4) rules for captor mines.

(M11.1) GENERAL

(M11.11) TYPE: The Trans-captor mine (T-cap) is the size of a large captor mine. There is no small version of a Trans-captor.

(M11.12) EMPLOYMENT: Trans-captor mines are deployed only around Andromedan bases, including planets with ground bases. They are purchased under the same procedures and limits as other captor mines.

(M11.121) All Trans-captor mines are command-controlled; only Andromedan bases (including ground bases) can control Trans-captor mines (M5.26). Trans-captors cannot be triggered by target proximity or movement (i.e., automatic), deadman or chain detonators, or sensor mines.

(M11.122) The base must have active fire control to operate a Trans-captor mine and must have a lock-on to the hex in which the mine is to be placed. [This is determined by acquiring a lock-on to an imaginary non-cloaked unit in that hex.] To employ PA mines from a Trans-captor mine also requires a lock-on to the target plasma torpedo.

(M11.123) Trans-captor mines cannot be laid during a scenario.

(M11.124) Trans-captors cannot be controlled by a base which is more than fifteen hexes away, including any effects of a Temporal Elevator (G31.0).

(M11.13) LOADING: A trans-captor mine holds four T-bombs or four PA mines or any combination.

(M11.131) There are no dummy T-bombs in a Trans-captor mine.

(M11.132) The specific contents of a given Trans-captor mine must be recorded in writing before the scenario begins; this information is not revealed to the opposing player until the scenario is completed.

(M11.133) Trans-captor mines cannot be reloaded by transporter. They cannot be reloaded during a scenario. They are automatically reloaded between scenarios.

(M11.14) TECHNOLOGICAL RESTRICTIONS: This mine is used only by Andromedans; no other empire can produce or use this type of mine, even when in possession of captured examples. No Galactic Power was able to duplicate the Andromedan achievement of building a working transporter that required so little space.

(M11.2) OPERATIONS

(M11.21) GENERAL: When commanded to do so by the base controlling the mine, the Trans-captor uses its built-in transporter to place one of its T-bombs or PA mines. This transporter is powered by the captor mine itself (no allocation is required).

(M11.211) This is done during the Operate Transporters Step of the Sequence of Play. Normal transporter rules (e.g., Range 5) apply.

(M11.212) By its nature (no automatic detonator), the Trans-captor is undetectable (M7.33). However, at the instant that it transports a T-bomb or PA mine, all units with active fire control can use (M7.4) to obtain a lock-on. At Tactical Intelligence (D17.0) Level C, the hex of a Trans-captor can be detected at the instant the transporter functions.

(M11.22) RATE: A Trans-captor can place one T-bomb or one PA mine each turn, but not within eight impulses of transporting a mine on a previous turn.

(M11.23) MINES PLACED by a Trans-captor function under all rules for that type of mine. For example, T-bombs do not become active for two impulses, and PA mines can only affect plasma torpedoes. EW might affect the placement of T-bombs (D6.37) and might further affect the placement of PA mines (M10.214). Rule (M3.32) and (M2.3) do not apply to Trans-captors.

(M11.24) PROGRAMMING a T-bomb (for the size class of acceptable targets, delayed count, etc.) is done at the instant that the mine is transported.

(M11.3) OTHER INFORMATION

(M11.31) COST: The Trans-captor costs nine points.

(M11.32) CARGO: The Trans-captor occupies ten cargo space points, including the T-bombs or PA mines, and four cargo space points when not loaded. It is considered explosive ordnance (G25.3) when loaded with one or more T-bombs.

(M11.33) DESTRUCTION: When swept, the large Trans-captor is destroyed by six damage points regardless of how many mines are loaded aboard. Partial damage does not destroy any of the mines loaded on the Trans-captor. Trans-captor mines will not take any action against a unit which tries to destroy them.

(M11.34) ESG INTERACTION: Trans-captors are treated as large non-explosive mines for purposes of ESG interactions (G23.612). The Trans-captor is destroyed by the sixth point of damage scored on it. The mines loaded on the Trans-captor do not explode. The Trans-captor remains fully functional until it is completely destroyed.

(M11.35) DISASSEMBLY: The T-bombs or PA mines on a Trans-captor cannot be removed from the Trans-captor (even between scenarios in a repair bay) or transported aboard a base or ship.

END OF SECTION (M0.0)

NOTES ON RULEBOOK ORGANIZATION

The rules superscript “N” has not been used in any *SFB* product to date (2004). The rules superscript “O” is not used due to possible confusion with “zero.” The next section is “P” (Planets and Terrain).

(P0.0) TERRAIN

PLANETS, ASTEROIDS, AND OTHER NAVIGATIONAL HAZARDS *(Advanced Rules)*

(P1.0) GENERAL RULES

(P1.1) GENERAL: Space is, of course, largely composed of empty or nearly empty volume. However, certain "terrain" features (planets, asteroids, etc.) do exist and become important elements of the game.

The rules in this section are used only when designated by the scenario, or when players create their own scenario and include terrain in it. In effect, this entire section might be considered as *OPTIONAL RULES,* although some scenarios require them, in which case they are not optional.

Beginning players should not use this section until they are familiar with the basic rules of the game.

(P1.2) ZONES: Some scenarios may create a boundary between a given terrain type and another (such as open space) and this is treated as follows: Units in a zone covering all or part of a map, are in the zone for all purposes. They are affected by that zone for any action they take against units outside the zone, and for any actions taken by units outside the zone against them. Examples might be a dust cloud or radiation zone covering half of a map, or any other terrain type.

(P2.0) PLANETS

(P2.1) GENERAL RULES

Planets are solid objects ranging from a few thousand to a hundred thousand kilometers or more in diameter. Generally, they block fire and movement.

Units can (sometimes) land on planets. Bases can be installed on planets.

(P2.2) TYPES OF PLANETS

Within *STAR FLEET BATTLES* there are three general types of planets: class-M planets (such as Earth), moons (also known as small planets, or sometimes small moons), and gas giants. These are described in this section.

(P2.21) CLASS-M PLANETS: This type of planet (two counters are included in *Basic Set)* completely fills one hex.

(P2.211) No weapons may be fired through a hex containing a class-M planet (P2.32).

(P2.212) Units cannot enter a hex containing a class-M planet unless they are in the act of landing on it (P2.4) or executing "low flight" (P2.423). Note, however, that only certain units can land on planets. Entering a planet hex by any other means (P2.812) results in a crash landing (P2.431). Living monsters are never forced to enter atmosphere hexes and, if they do, are not penalized or damaged.

(P2.213) Most planets of this size have an atmosphere, but some do not. Unless it is specified in the scenario that a class-M planet does not have an atmosphere, it is assumed to have an atmosphere. (If it doesn't, it isn't technically class-M, but it could be the same size.) The atmosphere is presumed to be the outermost 100 kilometers of the hex (which is 10,000 kilometers across). This has an effect when units that are landing (or have landed) on the planet are engaged in combat. A shuttlecraft, monster, or ship in the planet's hex might be physically on the surface or flying through the atmosphere. A launched seeking weapon would always be "flying" while a non-orbital base would always be on the surface.

(P2.22) GAS GIANTS: This type of planet (similar to Jupiter or Saturn) has a small solid core and a thick atmosphere.

(P2.221) SIZE: Gas giants come in various sizes. The counter is used to mark the center of the planet. Jupiter would be 14 hexes across, Saturn 11 (its rings would be 27 hexes across at their outside diameter), Uranus 5 hexes, and Neptune 4. Saturn was portrayed on a special map in *Module B,* but that module is no longer available. Some other earlier products had "planet cut outs" for planets of 3-14 hexes size, but those are also no longer available.

(P2.222) LARGE GAS GIANTS: The outermost ring of hexes of gas giants 7 hexes or more in diameter is considered to be entirely atmosphere. The ring of hexes immediately inside this atmosphere ring is considered to have the same thin layer of atmosphere as a class-M planet (i.e., with a planetary surface). See (P2.6) below (e.g., Saturn is a 9-hex solid body which includes a fringe of atmosphere, plus one hex of atmosphere all around, total 11 hexes). Gas giants 6 hexes and smaller have only the single atmosphere layer of class-M planets.

Units can enter and maneuver through the atmosphere, but are under certain restrictions (P2.8). The "large gas giants" (i.e., those with two hexes of atmosphere) are unique in that units cannot land on (or be built on) the surface. (There actually is no surface, just an increasingly dense layer of gas to the point where the hull of the ship could be crushed.) Any ship which attempts to land or which crashes on this "surface" suffers a catastrophic landing (P2.435).

(P2.223) RINGS: Many, if not most, gas giants have "rings" (such as the spectacular rings of Saturn) surrounding them. These rings extend a specified number of hexes (those of Saturn would start in the 5th hex above the planet's surface and extend to the 10th; the 6th ring would be empty space). Ring hexes are treated as asteroid hexes (P3.0) except that they use the damage table below [instead of (P3.2)] and each hex of ring material counts as 1/2 point of ECM (round fractions of 1/2 up) rather than the 1 point specified in (P3.33).

RING MATERIAL DAMAGE TABLE

DIE ROLL	SPEED			
	1-6	7-14	15-25	26+
1	0	0	0	0
2	0	0	0	2
3	0	0	1	5
4	0	1	3	7
5	0	3	5	10
6	0	5	7	15

Legendary navigators (G22.812) can reduce the damage; nimble units (C11.21), and outstanding (G21.228) or poor crews (G21.128) have a die roll shift on this chart; Erratic Maneuvering energy (C2.45) adds to speed (P3.222).

(P2.224) Units cannot enter a hex containing part of a gas giant (or its atmosphere) unless they are in the act of landing on it (P2.4) or executing "atmospheric flight" (P2.423). Note, however, that only certain ships (listed in Annex #7B) can land on planets. Entering a gas giant hex by any other means (P2.812) (e.g., at practical speeds over 1) results in an immediate catastrophic landing (P2.435), even if entering only the upper atmosphere hex (i.e., you burned up in the atmosphere). Living monsters are never forced to enter atmosphere hexes and, if they do, are not penalized or damaged.

(P2.23) SMALL PLANETS AND MOONS: Small airless planets (similar, perhaps, to Titan, Pluto, Mercury, or Earth's Moon) do not completely fill the hex they are in.
(P2.231) Units (and other objects) entering a small planet hex have a probability of colliding with the planet based on their speed as follows:

PLANETARY COLLISION TABLE		
SPEED	**SAFE**	**COLLISION**
1	1–6	–
2–14	1–5	6
15–22	1–4	5–6
23–27	1–3	4–6
28+	1–2	3–6

If a collision occurs, treat it as an immediate crash landing (P2.431). Otherwise, the ship may begin the landing procedure or continue moving through the moon hex.

Legendary navigators (G22.812), nimble ships (C11.29), outstanding (G21.228) and poor crews (G21.128), and units using EM (C10.47) have a die roll shift on this chart. A result less than 1 is treated as 1; a result more than 6 is treated as 6.

Monsters never crash into moons. See also (D21.22).
(P2.232) Moons between two units have a 50% chance of breaking the lock-on; see (P2.3221).

(P2.3) EFFECT OF PLANETS ON COMBAT

(P2.31) DESTRUCTION There is no practical way in which a ship could destroy a planet, but smaller bodies can be destroyed.
(P2.311) A planet might be "devastated" by scoring a number of damage points (specified in the scenario; if not specified, assume 200) on each hex side of the planet. See (P2.525).
(P2.312) Large asteroids (P3.4), meteors (SH3.0), moons (P2.23), etc. cannot be destroyed, but can be "broken up" into smaller fragments by weapons fire. This requires a number of damage points specified by the scenario. (Assume 400 points for a "dinosaur killer" asteroid a few miles in diameter, up to 5,000 damage points for a small moon 50 miles in diameter.)

(P2.32) BLOCKING FIRE: Planets can block direct fire and interfere with lock-ons and seeking weapons.
(P2.321) DIRECT-FIRE WEAPONS cannot be fired through a hex containing a planetary surface; it can fire along the edge. They can be fired through a hex containing a moon; see (P2.3221).

See (E12.54) for special cases involving web casters. See (D17.151) for probes.
(P2.322) LOCK-ON: If a planet occupies a hex that is directly between two units (that is, a line drawn from the center of each hex passes through any part of, but not along the edge or through a corner of, a hex containing a planetary surface, or part of a planetary surface), the two units cannot maintain a lock-on to each other. In this case, during the Activity Segment of the first impulse after the obstacle has passed, roll again for a lock-on (D6.11) within the limitations of the rules. If the units regain line of sight, they regain lock-on. In a case where two units moving at the same time pass on either side of a planet and have a line of sight to each other at the start and end of the movement step, the lock-on is lost and then regained, with no identifiable point in the Sequence of Play during which the "lost lock on" condition would apply.

[NOTE: In a more technical sense, the units do not have target tracking to each other, meaning that they cannot fire at all. It would not be possible to fire through a planet using passive fire control (D19.0). A unit on passive fire control would have to re-acquire a 'target tracking solution' or 'firing solution' before it could fire.]

(P2.3221) Small planets and large moons have only a 50% chance of breaking the lock-on (P2.232) of either/both unit. Roll for this every impulse that the planet is in the direct line between the ships. If the lock-on is broken, it cannot be re-established until the planet is out of the direct line.

(P2.3222) If seeking weapons are controlled by a ship which loses its lock-on in this manner, those weapons will be removed from the board unless control can be transferred to another unit (F3.5) or to the weapons themselves (F3.42), in which case see (P2.33). If the seeking weapon (controlled by the ship) is blocked from lock-on by the planet (most seeking weapons do not have their own lock-on, but the procedure is the same), the weapon loses lock-on because it cannot see the target that the ship's sensors are locked onto.

(P2.3223) If a WW goes behind a planet, treat this as if the target of the seeking weapons had gone behind the planet (which is in fact what happened). Weapons which accept the planet as their target will not revert to the ship even if the ship voids its WW.

(P2.3224) If a ship commits a voiding action while the unit controlling the seeking weapons targeted on a WW has no lock-on to the ship, the WW is not voided for purposes of those seeking weapons; see (J3.404).

(P2.3225) A base on a planetary surface cannot lock-on targets outside of its firing arc; see (P2.62).

(P2.33) SELF-GUIDED SEEKING WEAPONS providing their own guidance under (F3.42) lose their target if a planet comes between them and that target (P2.322). They acquire the planet as their new target and proceed to hit it. They will strike and explode on the planet. If it is a friendly planet to one player, this may result in considerable loss of life and property and should be suitably penalized (P2.525). One victory point per point of warhead strength may be used if no other penalty is specified in the scenario (maximum of 200 points per hex side). In the case of type-VI drones, see (FD2.54) for reduced damage effects.

(P2.34) TRACKING: A planet between the seeking weapon and the ship controlling it does not cause the weapon to lose tracking (F3.3). It receives its instructions by sub-space.

(P2.35) FIRING: The effects of firing from a planetary surface, to a planetary surface, and through an atmosphere are given in (P2.5). That section also provides rules for firing at a unit that has landed on an airless planet.

(P2.36) OTHER EFFECTS: The effect of planets and atmospheres on other systems is found in:
Expanding sphere generators (G23.65)
Tholian webs (G10.114).
Tractor beams (G7.241) and (G7.75).
Stasis field generators (G16.61) and (P2.546).
Power absorbers (D10.4123).
Anti-drones (P2.548).
Cloaking devices (G13.49) and (P2.523).
Wild weasels (J3.48) and (P2.322).

(P2.4) LANDING ON PLANETS

It is possible for all ships and shuttles to land on planets although in most cases this results in destruction of units not designed for planetary landings.

(P2.41) PROCEDURE FOR LANDING OR TAKING OFF FROM A PLANET OR OTHER BODY
(P2.411) LANDING PROCEDURE: Units landing on planets with an atmosphere use the following procedure. If there is no atmosphere, skip Steps #1 and #2, entering the landing hex at Speed 1 (maximum for entire turn) on Step #3; see (P2.421).

(P2.4111) STEP #1. The unit must end the turn in a hex adjacent to the planet. [The unit can skip Step #1 so long as its practical speed and effective speed when entering the planet/atmosphere hex is no more than 1. This could be accomplished by using (C12.0) speed changes or by using (C8.41).]

(P2.4112) STEP #2. On the next turn, it moves into an adjacent hex containing the planet at a maximum speed of 1. This movement requires engine power equal to one hex of movement. If this energy is not expended, the ship does not move (i.e., does not enter the atmosphere and start the landing procedure). A ship can enter the atmosphere hex using tractors (P2.432) instead of engines. A ship that enters a planet hex at a speed of more than 1 crashes (P2.812). Alternatively, the ship could end normal movement in an atmosphere hex with emergency deceleration (C8.22).

(P2.4113) STEP #3. On the next turn, it is "descending" for the entire turn and cannot exceed a speed of 1. This requires

engine power equal to one hex of movement [exception: (P2.433) and (P2.432)] and might be (but is not required to be) used to move the ship to an adjacent hex side of the planet (P2.61). If this power is not allocated, the unit crashes immediately (P2.431). The unit lands on Impulse #32 of this turn. [See types of landings (P2.43).] If it landed, the unit begins the next (fourth) turn in a landed condition (P2.45).

Instead of descending, the unit might choose to execute "atmospheric flight" (P2.8) [which does not count as "descending"]. The unit can (but is not required to) use this atmospheric flight to move to an adjacent hex side (P2.612).

If the atmosphere is more than one hex deep (P2.63), this turn could be used to enter a lower atmosphere hex although an actual landing would be impossible. The unit would simply execute atmospheric flight at the lower level until it came back up.

(P2.412) TAKE OFF PROCEDURE: Taking off from a planet with an atmosphere is conducted by the following procedure. If there is no atmosphere, skip Step #2.

(P2.4121) STEP #1. During the first turn, the unit expends one unit of power and leaves the surface on Impulse #32 (remaining in that hex). This takeoff requires engine power equal to one hex of movement (P2.80). If this power is not allocated, the unit remains on the planetary surface. [The unit could use tractors (P2.432) to take off. This could be done with allocated or reserve power.]

(P2.4122) STEP #2. The second turn is spent "climbing" to the atmospheric flight level (still in the planet hex). This requires engine power equal to one hex of movement (P2.80), but the ship does not leave the hex. If this power is not allocated, the unit crashes (P2.431). [Exception: Units able to execute an aerodynamic landing (P2.433) or gravity landing (P2.432) may do so.] The unit could use tractors (P2.432) to hold itself in the atmosphere.

(P2.4123) STEP #3. On the third turn, the unit has three options.

It can begin normal movement, but only if the first hex of movement takes it out of an atmosphere hex into open space (it continues moving at whatever speed was allocated for the remainder of the turn).

The third turn could alternatively be used to execute "atmospheric flight" (P2.8) within the atmosphere instead of leaving the atmosphere and entering space. This could be used to move to an adjacent hex side, but this is not required. The unit would then have the same three Step #3 options on the next turn.

The final option for the third turn is to descend, resulting in the unit landing on Impulse #32 (in the same hex/hex side). This landing must be within the limits of the rules. The first two options require power; if no power is available, the unit must take the third option and if not qualified for (P2.433) will crash.

If the atmosphere is more than one hex deep, the unit could use this turn to change from an upper atmosphere hex to a lower one and vice versa. Of course, the unit could never land on the surface.

If in an upper atmosphere hex and no power is applied, the ship will "fall" to the lower level, where it will be "in flight.

(P2.42) MODIFICATIONS TO THE PROCEDURE: In several cases, modifications to this procedure are required by the circumstances.

(P2.421) In the case of planets without an atmosphere, the turn of "climbing" or "descending" is skipped. These rules can be used to land on asteroids and moons.

(P2.422) In the case of large gas giants, one "descending" (or "climbing") turn must be spent in the "upper atmosphere hex" before entering the adjacent "lower atmosphere hex" (or leaving the atmosphere).

(P2.423) A unit can enter a planetary surface hex (remaining in the atmosphere) without landing by conducting Steps #1, #2, and #3 of (P2.412) and then using (P2.8). This might be done by a ship trying to get closer to a surface target or trying to gain some of the shielding benefits of the atmosphere. Units which cannot land CAN perform atmospheric flight.

(P2.43) TYPES OF LANDINGS: Units can make safe controlled landings (which do not damage the unit and which allow it to take off again) or uncontrolled (i.e., "crash") landings.

(P2.431) CRASH LANDINGS**:** Unless otherwise specified, units landing on planets (or moons) are destroyed by the procedure. This would usually be done only if the unit was badly crippled and a crash landing on a planet was the only chance that some of the crew would survive.

(P2.4311) In this case, there is a 50% chance for EACH crew unit (or pilot if it is a shuttle) to survive. (Roll for each crew unit separately; 1-3 indicates survival.) Certain ships listed in Annex #7B (e.g., most Orion ships and Federation saucers) have a better chance of crew survival (die roll 1-5). The survival of the crew units while on the planet (breathable atmosphere, gravity, food sources, disease, predators) is outside the scope of *STAR FLEET BATTLES*. (Obviously, survival in a non-breathable atmosphere would be only a few hours, perhaps long enough for rescue in the next scenario of a campaign game.)

(P2.4312) Wreckage (the unit does not explode) and the survivors are presumed to be located on the hex side where they landed. It can be presumed that any necessary procedures (such as dropping the warp engines or shutting down the reactors) are performed by the crew without special attention by the players.

(P2.4313) Legendary navigators (G22.85) and outstanding (G21.228) or poor crews (G21.128) have a die roll shift when rolling for crew survival.

(P2.4314) It is impossible to crash land on a large gas giant (P2.222); any landing there would be catastrophic (P2.435).

(P2.432) GRAVITY LANDING SYSTEM: Certain units may make a safe, controlled, landing using their tractor beams as an anti-gravity system. Units capable of this are listed in Annex #7B. This system can also be used in various steps of the Take Off Procedure. If no working tractor beams (with power applied) are available, this system cannot be used.

(P2.4321) Landings by this method do not damage the unit, and it can take off again later.

(P2.4322) The system requires an amount of power applied to a tractor (from any source) equal to the cost of moving five hexes for every turn of the landing procedure (the energy must be allocated on each turn; it cannot be from previous turns).

(P2.4323) While a unit cannot land in an atmosphere two hexes deep, it could use this system to "hover" in the lower atmospheric flight level.

(P2.4324) Any unit not listed in Annex #7B can use this system, but while the crew would arrive safely, the unit itself (not designed to land in this manner) would be wrecked (destroyed, no explosion).

(P2.4325) Any pod with a tractor beam can use this system (within the limits of the rules) at a cost of 1 point of power.

(P2.433) AERODYNAMIC LANDING SYSTEM: Certain units may make a safe, controlled, landing without the use of any power once inside an atmosphere. (They glide in like the space shuttle.) Units capable of this are listed in Annex #7B.

(P2.4331) Units can only descend by this method; they cannot climb or use atmospheric flight.

(P2.4332) Landings by this method do not damage the unit, and it can take off again later (by some other system as you cannot "glide" up).

(P2.4333) Naturally, this type of landing is only possible in an atmosphere. While the unit cannot land in an atmosphere two hexes deep, it could "glide" into the lower atmosphere and then begin powered flight under (P2.8).

(P2.434) POWERED LANDINGS: Certain units may make a safe, controlled, landing using their normal engine power equal to one hex of movement per turn (P2.80). Units capable of this are listed in Annex #7B.

(P2.4341) Landings by this method do not damage the unit, and it can take off again later.

(P2.4342) Powered landings can be made with or without atmosphere.

(P2.435) CATASTROPHIC LANDINGS: In this case, the unit impacts on the surface at considerable speed and out of control. The unit is destroyed and explodes on the surface as per (D5.2). The crew is all killed unless they escape under (D21.0). This type of landing is used on large gas giants (P2.222) and when entering a planet hex as a result of tumbling (C6.556). See (P2.311) for damage to planets.

LANDING EXAMPLE: An Orion CR wishes to land on a planet. The planet is a one-hex Class-M planet in hex 2215.

TURN #3: The CR ends its movement in hex 2116 facing A. His turn and sideslip modes are satisfied. This is Landing Step #1.

TURN #4: The CR enters 2215 (with a sideslip on Impulse #32, using one point of engine power) and denotes its position as 2215/2116A (P2.61). That is, it is in hex 2215 on the hex side facing 2216 and is in the "A"tmosphere. This is Landing Step #2. The CR cannot use its free aerodynamic landing ability because it has not entered the atmosphere.

TURN #5: The CR decides to execute "atmospheric flight" and move around the planet to 2215/2115A on Impulse #32. For whatever reason, the CR uses the gravity landing system (P2.432) on this impulse, spending 3.33 energy points. This was done in lieu of Landing Step #3. The CR cannot use its free aerodynamic landing ability because it is not descending, but it instead moves to another hex side by (P2.80).

TURN #6: The CR decides to execute atmospheric flight and move around the planet to 2215/2214A, using one point of power for powered flight on Impulse #32. This was done in lieu of Landing Step #3. The CR cannot use its free aerodynamic landing ability because it is not descending, but it instead moves to another hex side by (P2.80).

TURN #7: Being on the hex side where he wanted to land, the CR captain uses aerodynamic flight (no power) to descend on Turn #7, landing on Impulse #32. This was Landing Step #3.

TURN #8: The CR remains on the planet.

TURN #9: The CR takes off again (having completed its business), actually leaving the surface on Impulse #32. Take-off Step #1.

TURN #10: The CR ascends using powered flight (P2.80). It is still in 2215/2214A. Take-off Step #2.

TURN #11: The CR uses powered flight (P2.80) to move to 2215/2315A, actually changing hex sides on Impulse #32. This is one of the Take-off Step #3 options.

TURN #12: The CR allocates power for Speed 10 and climbs out of the atmosphere to hex 2315 (the only space hex it can legally enter) on Impulse #4. This one of the Take-off Step #3 options.

TURN #13: The CR accelerates to a speed of 20 and thereafter proceeds to get out of the system before any police come around asking questions.

(P2.44) TRACTOR BEAMS: Tractor beams can be used to raise objects from and lower objects to a planetary (or moon) surface under certain conditions and restrictions. This procedure is used for a unit in space to lower a unit to (or raise it from) a planetary surface. A unit cannot use this system to rotate itself to the surface; use (P2.432) instead.

(P2.441) RAISING: Objects (including ships) can be raised from a planetary surface by using the tractor rotation rules (G7.7). The first rotation raises the object into the "atmospheric flight" level, while the second rotation can pull the object out of that hex and into an adjacent space hex. (In the case of a deep atmosphere, the tractored unit could of course never have been on the "surface". The first rotation would pull it from the "lower atmosphere flight level" to the "upper atmosphere flight level," and the second would pull it into space.) The restrictions in (G7.323) will virtually require the unit doing the lifting to be at a speed of 1 or 0. Ground bases with active stabilizers (G29.0) cannot be lifted in this manner. If the tractor is released while the object is in the atmospheric flight level, the object can begin the landing procedure at Step #3 or the take-off procedure at Step #2. If not capable of either, it will crash and all crew units will be killed. Use the crash landing procedure in (P2.431).

(P2.442) LOWERING: Objects (including ships) can be lowered to a planetary surface by using the tractor rotation rules (G7.7). The first rotation moves the object down into the "atmospheric flight" level, while the second rotation can lower the object to the planetary surface for a safe landing. (In the case of a deep atmosphere, the second rotation would move the object into the next lower layer of atmosphere. The object could, of course, not be lowered to the "surface;" any attempt to do so would destroy the lowered unit due to pressure.) The restrictions in (G7.323) will virtually require the unit doing the lowering to be at a speed of 1 or 0. While ground bases (of any type) can be lowered, they would be inactive (treated as cargo with no shields) as there is not time during a scenario for their positional stabilizers (G29.0) to deploy. If the tractor is released while the object is in the atmospheric flight level, the object can begin the landing procedure at Step #3 or the take-off procedure at Step #2. If not capable of either, it will crash (P2.431).

(P2.443) ENEMY UNIT: Permission of the enemy unit to lower it into an atmosphere is not specifically required, but the enemy unit may be able to prevent it from happening by various means provided in the rules.

(P2.45) LANDED ON PLANET: A unit which has landed on a planet is under several restrictions.

(P2.451) A unit landed on a planet cannot expend power for movement except to take off (P2.412).

(P2.452) For combat purposes, see (P2.5).

(P2.5) EFFECTS OF ATMOSPHERE ON COMBAT

If a target is located in an atmosphere, the accuracy of units firing at it is reduced. This is generally given in terms of ECM (electronic counter measures, or jamming) points. Note that this system can still be used even if the electronic warfare section (D6.3) is not being used for other purposes. Simply use the EW rules, but assume that the effect of an atmosphere [and certain other effects listed in (D6.3) standard EW system] is the only source of ECM and that there is no ECCM.

(P2.51) EW EFFECTS OF AN ATMOSPHERE: When the line of fire for direct-fire weapons passes through an atmosphere, the firing unit is penalized by 1 point of ECM for each hex of atmosphere that the line of fire passes through. This ECM can be offset by ECCM.

See also (P2.54) for degradation of effect for certain weapons.

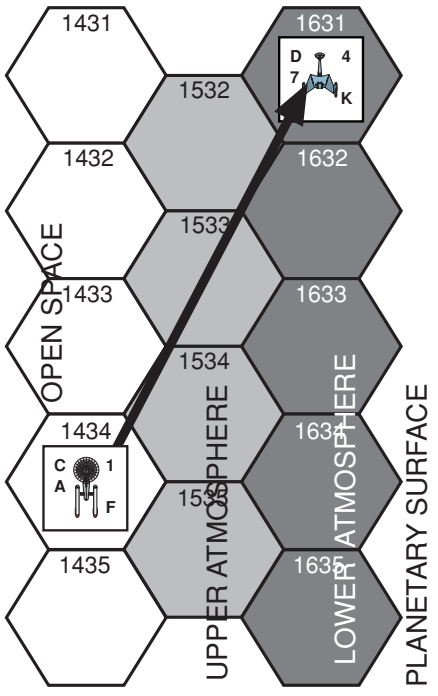
See also (D17.2251) for effects on tactical intelligence.

See also (P2.722) for the ground base exemption.

(P2.511) This includes fire from, through, into, or between atmosphere hexes and includes the hexes containing the firing and target units (assuming that such hexes are atmosphere hexes). If both units are in the same hex, this is considered to be one atmosphere hex. If neither the firing unit or target is in an atmosphere, but the line of fire passes through atmosphere hexes, the firing unit is penalized by the ECM penalty for each hex of atmosphere the line of fire passes through.

(P2.512) When resolving fire through an atmosphere, determine the most direct line of hexes from the firing unit to the target. The line is traced from the center of the hex to the center of the hex. This line of hexes cannot be longer than the true range, but can be the minimum number of atmosphere hexes. See (P2.63).

EXAMPLE: In the illustration below, fire from 1434 to 1631 crosses 1533, 1532, and into 1631 (three atmosphere hexes).



(P2.52) TARGET ON A PLANET: When a target is on a planetary (moon, large asteroid) surface, it gains two points of ECM (the "ground clutter bonus") plus the EW effect of any atmosphere (P2.51). ECCM can be used to offset this type of ECM. See also (P2.54). For ground bases, see (P2.524). Note that a unit in "atmospheric flight" over a planet without any atmosphere would gain no EW benefits. See also (R1.14).

(P2.521) In this case, the owning player may designate which of his shields is facing the unit firing at it. The designated shield is used for all firing units for as long as that unit remains on the planet's surface. Only weapons that can fire through the shield can be fired.

(P2.522) Seeking weapons fired at a planet are targeted on specific points or installations. See (D17.4) for the ability to locate some target types. In scenarios where general damage to the planet is called for (P2.525), the weapon crews are selecting appropriate cities or industrial areas on the hex side selected by the player. See also (F4.22).

(P2.523) A cloaked unit landed on or which lands on a planet or asteroid remains cloaked unless the cloak is voided by some other factor.

(P2.524) Planetary bases, being fixed installations, do not receive the ground clutter bonus in (P2.52). See (P2.713) and (P2.76) for other effects.

(P2.525) Sometimes the objective is "general destruction," simply bombarding the planet to destroy buildings, settlements, roads, crops, and other "infrastructure" that are not specific units in the *SFB* sense. In this case fire is resolved as within these rules (P2.52) for purposes of atmosphere, EW, and other effects that may reduce weapons efficiency.

Depending on the scenario rules, this general destruction may be done for victory points (limit 200 points of damage per hex side) or simply to achieve a level of victory. If no such rules are provided, accidental damage due to (P2.33) is resolved as provided in that rule.

See also (P2.746) and (F4.22).

(P2.526) A ship landed on a planet will be in a "remote area" (D15.7) and cannot fire at bases, or be fired at by bases, on the planet, even on the same hex side; see also (D15.532) for ground combat. A ship in flight (P2.423), even low flight (P2.433), on a class M planet (P2.21) can exchange fire with bases in the same hex side, but not with bases on adjacent hex sides. A ship in an atmosphere hex that does not contain the "surface" of a gas giant (P2.22) can exchange fire with ground bases on that gas giant as long as the ground bases have a line of sight into the atmosphere hex (P2.63) the ship occupies.

(P2.53) FIRING FROM A PLANET: When any firing unit is on a planetary (moon, large asteroid) surface, the target of its fire gains the effect of two points of ECM plus the EW effects of atmosphere (P2.51). This ECM can be overcome by ECCM. The firing arc is limited (P2.62) to 180°.

A planetary base does not suffer this penalty; see (P2.722).

See also (P2.54) for degradation of effect for certain weapons.

(P2.54) FIRING THROUGH AN ATMOSPHERE: Firing weapons through an atmosphere degrades their performance. The specific effect depends on the weapon. The atmosphere of a small planet counts as one hex of atmosphere for this purpose. For gas giants, count each hex of atmosphere between the firing unit and the target, including (if appropriate) the hex occupied by the firing unit and the target. These restrictions apply to weapons fired "up" from the surface, "down" from space, and from one atmosphere hex to another. Two units in the same atmosphere hex are treated as firing through one hex of atmosphere for purposes of this rule only. For planetary bases, see (P2.722).

(P2.541) For phasers and fusion beams, add one to the die roll (cumulative with any other shifts) for each hex of atmosphere (E1.8); this is cumulative with other modifiers.

(P2.542) For photon torpedoes, hellbores, plasmatic pulsar devices, plasma bolts, web fists, maulers, and anti-matter probes, reduce the strength by 25% (of the original strength) for each hex of atmosphere.

The 25% loss for a second (or subsequent) hex of atmosphere is cumulative with previous hexes, i.e., deduct 50% for two hexes, 75% for three, and 100% for four or more.

Round fractions down when calculating the loss (strength 6, 25% loss is 1.5, drop the .5, result is 5, loss is 1).

For PPDs, deduct the 25% of the total strength, but deduct it from the main element only (leaving the splash elements intact) until the main element is reduced to 1 point, then deduct subsequent losses from the splash elements and (after both are gone) from the main element.

(P2.543) Disruptor bolts lose one point of warhead strength for each hex of atmosphere. Disruptors are, the player will note, just about the most effective weapon for bombarding planets. This may tell you more about the Klingons, Lyrans, and Kzintis than they would prefer you to know.

(P2.544) TR beams count each hex of atmosphere as five hexes for range purposes.

(P2.545) Seeking weapons (drones, plasma torpedoes) move in an atmosphere by (P2.85). Shuttle based seeking weapons (suicide shuttles, scatter-packs) move in an atmosphere as non-seeking shuttles. Seeking shuttles in an atmosphere that lose tracking, or scatter-packs which have released their submunitions, crash immediately and are removed from play.

(P2.546) Expanding sphere generators (G23.652) and stasis field generators (G16.61) do not function through or into an atmosphere hex. See (G10.114) for details on web.

(P2.547) Planets and moons have an effect on explosions. See (P2.31) for the effect of these explosions on the planet.

(P2.5471) Self-destruction (D5.55) and mine explosions (M2.501) do not extend into or through an atmosphere.

(P2.5472) Planets block the effects of ship and mine explosions (D5.55) for units in space; if a planet is between a unit and the blast, the unit suffers no damage from the blast. A moon would not block the effects of the explosion except for units landed on or in atmospheric flight above non-adjacent hex sides. See (P5.354) for pulsars.

(P2.5473) A mine or ship explosion in an atmosphere hex affects only that hex (and its hex sides if it is a surface hex).

(P2.5474) The damage from an explosion in an atmosphere hex is applied to the planet as general destruction on the nearest planetary hex side in the same hex (if any) and not to units on the planet. The explosion would affect units in "atmospheric flight" in that hex normally (P2.80). See (P2.746).

(P2.5475) The damage from an explosion near a planet or moon without an atmosphere is applied to the planet as general destruction on the nearest planetary hex side and not to units on the surface. The explosion would affect units in "atmospheric flight" normally. See (P2.746). On a moon, the damage is divided over the hex side and the two adjacent hex sides.

(P2.548) Anti-drones can fire into or out of an atmosphere hex, but cannot fire through an atmosphere hex and cannot fire from one atmosphere hex into another atmosphere hex; ADDs can fire along the edge of an atmosphere. ADDs on planetary bases fire at range 1 (or 0) as if it were range 3. ADDs on planetary bases fire normally at ranges 2-3.

(P2.55) ELECTRONIC SYSTEMS: Atmosphere does not in any way impede the lending of electronic warfare or block the functioning of special sensors.

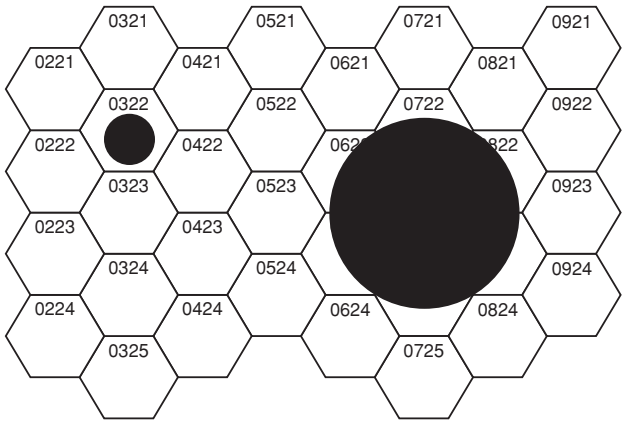
(P2.6) STRUCTURE OF PLANETS AND ATMOSPHERES

The existence of a planet, particularly one with an atmosphere, causes certain complications to the normal operation of the game.

(P2.61) HEX SIDES: All units in a planetary surface hex (whether landed or in an atmosphere) must be designated as to the "hex side" that they occupy. This designates the specific area of planetary surface that they are on (or over). Note that this is not done with asteroids [not even with large asteroids (P3.4)], only with planets.

See (P2.8) for movement within an atmosphere, (P2.41) for landing and taking off from a planet, and (D15.542) for movement by ground troops on a planet. This rule does not apply to airless moons.

(P2.611) Note the illustration below. A shuttle in hex 0421 plans to land on the planet in hex 0322. If it enters the planet hex directly from 0421, the shuttle will be automatically designated as being in hex 0322 facing hex side 0421.



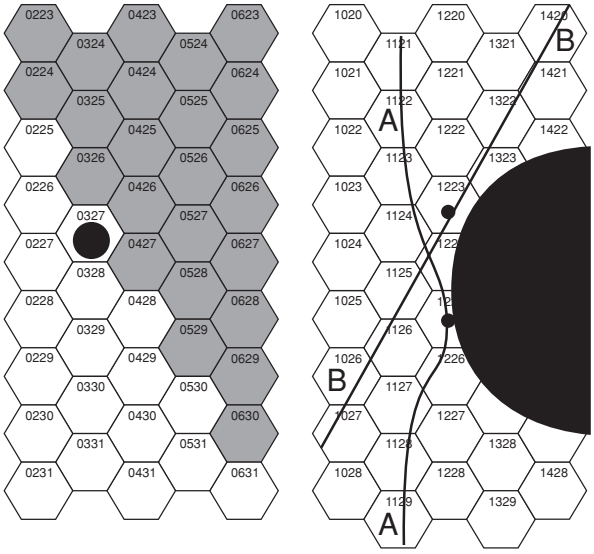
The terminology used to reflect this is: 0322/0421A, where the first number is the hex number of the planet's hex, the second number is the hex side it is facing, and the letter indicates if the unit is in the atmosphere (A) or has landed (L). Note two uses of the word "facing," one defining the hexside of the planet and the other the direction the unit is facing.

(P2.612) If the shuttle in 0322/0421A proceeds to land on the planet, it MUST land on 0322/0421L. The shuttle could move, taking an entire turn and moving through the atmosphere, to an ADJACENT hex side (such as 0422 or 0321). Thus a shuttle in the atmosphere at 0322/0421A has the options of landing in 0322/0421L, moving to 0322/0422A or 0322/0321A, or moving back to 0421. Similarly, a shuttle that has landed at 0322/0421L which later takes off can only move to 0322/0421A.

(P2.613) This is more complex in the case of a larger planet, but only marginally so. Note that a ship in 0621 could move to 0622/0621A or to 0722/0621A. From 0622/0621A it could: land in 0622/0621L, move to 0622/0522A, move to 0722/0621A, or return to 0621. [It could not go to 0522 because (P2.612) requires it to exit at the point it entered unless it spends time changing its relationship to the planet.] Note also that due to the two dimensional nature of the game no unit could move into hex 0723.

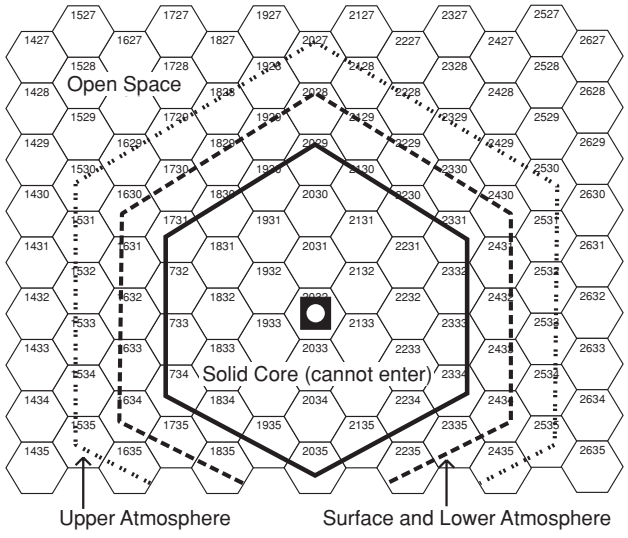
(P2.62) FIRING ARCS: The firing arcs of units on a planetary surface (or in low atmosphere) are, basically, limited to 180°. (Units with smaller arcs are not expanded to this size.) This arc also determines which enemy units can fire at that unit.

Note in the illustration below the firing arc for a base in 0327/0426L. Any unit in the arc could fire at, or be fired at by, a base in 0327/0426L. In the case of a larger planet, the same 180° rule applies. A base in 1225 (either side) would have the firing arc designated by A; the firing arc of a base in 1223 is designated by B. See (P2.863) for more on weapon arcs.



(P2.63) ATMOSPHERE DEPTH: The depth of the atmosphere is critically important in determining both combat and movement aspects of planetary combat. In the case of a class-M planet or a gas giant six hexes or less in diameter, the atmosphere is considered to be within the planet's surface hex(es). No "straight line" operation can involve more than one "hex" of atmosphere.

In the case of deep atmospheres on larger gas giants, this becomes somewhat more complicated. Note the large gas giant shown in the illustration below. As it has a diameter of 11 hexes, the outer row of hexes (1532 for example) are considered to be atmosphere hexes.



A unit in hex 1532 would not need to designate a hex side because it is not in a planetary surface hex. Fire between hexes 1432 and 1631 would cross two atmosphere hexes (1532 and 1631). Fire between hexes 1434 and 1631 would cross three atmosphere hexes (1533, 1532, 1631). Moving along the border between an atmosphere (1534) and non-atmosphere (1433) hex does not count as an atmosphere hex.)

Movement from hex 1532 to the planet's surface hexes would be conducted exactly as it would if 1532 was not an atmosphere hex, as in (P2.61) above, except of course, that the unit would have taken a turn to reach 1532 because it is an atmosphere hex.

(P2.7) BASES ON PLANETS

Bases of all sizes can be placed on planets. These are known collectively as ground bases or planetary bases. Ground bases come in three sizes:

Large ground bases include starbases, battle stations, base stations, SAM bases, BLM bases, and other (normally) orbital bases which are (for whatever reason) built on the planetary surface.

Small ground bases are those covered in (R1.14), (R1.28), and possibly others in future products.

Medium ground bases are simply a larger version of the small ground bases and use the same rules.

In the case of bases on planets, certain modifications apply.

(P2.71) INTERACTION WITH UNITS: Units and planetary bases require special rules when they interact.

(P2.711) Units that are able to land on planets can dock at the ground base by landing at the appropriate planetary hex side. No tractor beam (C13.0) is required. Units unable to land cannot dock at ground bases. Units which dock at a ground base can be repaired by it (within the rules).

(P2.712) A ground base (not a unit that has landed) can tractor a unit (G7.25). Actually pulling an enemy unit down to the planet's surface (resulting in a crash if the unit is not capable of planetary landings) is possible, but takes much longer than a scenario. [A friendly unit could be lowered by a base using rotation; see (G7.7) or (P2.442).] Therefore, a unit held in a tractor by a ground base cannot be pulled into a planetary surface hex during a scenario. If the unit is unable to break the tractor beam before the end of the scenario, it is assumed to be captured or destroyed (option of the unit's owner) after the scenario is over. The unit must have at least one auction opportunity during an Energy Allocation Phase, even if the scenario must be extended one complete turn. If the unit crashes, the base player will ensure that this takes place in a remote area. If the player owning the unit wants the effect of the unit's destruction, he will have to self-destruct during the scenario. This applies to a unit with operating engines expending at least one point of power for movement.

(P2.713) Seeking weapons can be fired at a ground base using ballistic targeting (F4.0), but only from a range of 4 hexes or less. Weapons fired in this manner cannot be distracted by ECM or WW. Weapons fired ballistically at ground targets do explode on impact. Weapons cannot be fired for ballistic bombardment under passive fire control (D19.0) as target tracking is inadequate. Submunitions from a ballistic MW drone cannot target a ground base.

(P2.72) WEAPONS: The weapons of a ground base have special rules.

(P2.721) Large ground bases (being based on orbital designs) require modified firing arcs. All of the large ground base's weapons have a 180° firing arc; see (P2.62). Small and medium ground bases (which cannot be placed in orbit) are designed with 180° firing arcs (R1.14).

(P2.722) Ground bases of all types ignore the effects of atmospheres [see (P2.51) and (P2.54)] when firing energy-using direct-fire weapons. See also (P2.53).

(P2.73) DEFENSES: The shields of a ground base use special rules.

(P2.731) The shields of a large ground base (i.e., an orbital base placed on a planetary surface) are modified. Starbase armor is combined if on a planet.

A base in a hex with two non-planet hex sides [for example hex 1225 in the illustration in (P2.62)] would have two shields, each of which is three times the normal strength.

A base in a hex with three non-planet hex sides [for example hex 1223 in the illustration in (P2.62)] would have three shields, each of which is two times the normal strength.

In each case, the shield section on that side provides protection from attack from the adjacent planetary hex side.

The small and medium ground bases (P2.76) have a single shield (covering all arcs) as part of their design.

(P2.732) A ground base could use a wild weasel to distract seeking weapons [except those using ballistic targeting, see (P2.713)]. The WW remains in the hex of the ground base. Otherwise, it is treated as a WW launched by any other base (e.g., collateral damage).

(P2.733) Enveloping weapons require special treatment. In the case of a large asteroid, the "enveloping" damage counts toward destruction (P3.45).

(P2.7331) Hellbores and enveloping plasma torpedoes try to envelop the base, but obviously cannot envelop the entire planet. Their effect is divided into two equal portions. The first is lost [expended on the surrounding landscape (P2.525)]; the second is divided equally over the base's shields. Any odd point is expended against the ground.

(P2.7332) The splash elements of PPDs are lost when fired at small and medium ground bases (which only have one shield). When a PPD is fired at a large ground base with three shields, the normal rules are used (except that if the main pulse hits either of the flank shields, one splash element would obviously be expended on the ground). Any "lost" splash elements could be counted for general planetary devastation (P2.525).

(P2.734) Ground bases can be targeted by warp-seeking (type-VI) drones as any base in space could; damage is as per size class of target.

(P2.735) Ground bases cannot project an ESG field beyond a radius of zero. (The planet would block a part of a radius 1 or greater field; the remainder would not be stable.) See (P2.546) and (G23.652) for the effects of an atmosphere.

(P2.736) Ground bases can use special sensors (G24.0) and ECM and ECCM (D6.3) normally. Ground bases get the benefit of (P2.51) but are not penalized by it (P2.722). Ground bases do not get the ground clutter bonus of (P2.52) and are not penalized by (P2.53) or (P2.54) [exception: they are penalized by (P2.548)]. Seeking weapons launched by ground bases are treated under (P2.85).

(P2.74) ADDITIONAL INFORMATION: Ground bases are under the following additional restrictions.

(P2.741) A ground base cannot cloak. (Ships on the ground can cloak; the enemy has not had time to locate them.)

(P2.742) Ground bases cannot perform any form of movement and cannot rotate.

(P2.743) The BPV cost of large ground bases is equal to bases in space.

(P2.744) Ground bases cannot be displaced (G18.72) or placed in stasis (G16.61).

(P2.745) Monsters ignore ground bases unless those bases attack the monster. Thereafter, the monster treats a ground base as a unit. Scenarios may give exceptions to this rule, e.g., (SM4.45) or (SM5.48).

(P2.746) Ground bases can self-destruct. Explosions resulting from self-destruction or destruction in combat can be resolved using (D5.0) and (P2.547), in addition to which any ground troops fighting at that base would be destroyed.

(P2.747) Small and medium ground bases can be placed on large asteroids (P3.4), in which case they would have 360° weapons and their shields would cover the entire 360° arc. Large bases cannot be placed on large asteroids (although of course they can be placed in asteroid hexes). Players may place the bases on a hex side of the large asteroid, limiting the arc into which it can fire (and from which it can be hit) to 180°; see (P3.43).

(P2.75) INTERACTION WITH MARINE UNITS

These rules concern ground assaults. Normal boarding assaults work as on ships (transporters through down shields, etc.).

(P2.751) Troops (militia, ground troops, boarding parties) could attack the base on the ground. These units would first have to move to the base [which is treated as a ground combat location (D15.1)] by ship, shuttle, or transporter. They can then attempt to "board" the base through the "repair" areas on the (D16.0) combat display by the procedure in (P2.752).

(P2.752) The procedure for ground starbases and ground battle stations is as follows: Each unit attempting to gain entry to the ground base is resolved separately. Roll one die, modify the result as listed below, and use the chart to determine the fate of that unit.

1-2 = Unit gains entry
3 = Unit does not gain entry
4-6 = Unit is destroyed

Subtract one from the die roll if attacking units already control the "weapons" area adjoining the "repair" area being entered.

Subtract three from the die roll if attacking units already control the "weapons" area adjoining the "repair" area being entered AND the

"weapons" areas of both adjacent modules. (These two modifiers are not cumulative.)

Subtract one from the die roll if the assault forces includes a legendary marine major or legendary ground forces officer (G22.0). Add one if the defenders include a legendary marine major or legendary ground forces officer. This shift is cumulative with those above.

The shields of the base do not stop this "boarding" by troops already on the planet. The weapons of ground troops, to include ground combat vehicles and the ground combat potential of shuttles, cannot damage shields.

See also (G21.141) and (G21.241) for additional modifiers.

(P2.753) The procedure for ground base stations is the same as (P2.752) except that the attacking units enter through the "pod" areas and must control these "pod" areas to modify the die roll.

(P2.754) Small orbital bases [system stations (R1.30), mobile bases (R1.24), and commercial platforms (R1.29)] deployed as surface bases have only three areas (the core and the two modules). Using the (P2.752) procedure, entry is through the modules with an automatic -1 modifier; if the core is controlled, further entry is automatically successful.

(P2.755) Small (and medium) ground bases (P2.76) have only one area. Entry has an automatic -2 modifier in the (P2.752) procedure.

(P2.756) While personnel units could leave the base on foot, they would be very limited in speed and could not escape from the area (i.e., the effect of weapons aimed at the base) within the course of a scenario. Personnel units leaving by ship, transporter, or shuttle are covered under the rules for moving those units.

(P2.76) SMALL GROUND BASES: Certain small ground bases covered in (R1.14), (R1.28), and (R10.31) have additional benefits and conditions. Note that medium ground bases use the same rules as small ground bases; they are simply larger.

(P2.8) ATMOSPHERIC MOVEMENT

(P2.80) GENERAL: A unit can only be in an atmosphere hex if it is conducting atmospheric flight (which requires one point of movement power per turn even if the unit does not move) or if they are using one of the landing systems in (P2.43). Otherwise, a unit in an atmosphere will crash (P2.431).

(P2.81) MAXIMUM SPEED: Units can move in atmosphere hexes without landing. The maximum speed in an atmosphere is one hex-side per turn. It is simply impossible to go any faster. The maximum speed that can be paid for and/or used is one hex per turn. A unit entering an atmosphere hex must do so by (P2.423) or by (P2.41).

(P2.811) A unit leaving an atmosphere hex to enter a space hex is not restricted except by acceleration limits or other rules.

(P2.812) A unit which enters an atmosphere or planet hex at a speed greater than one crashes. The extent of the crash depends on the type of planet:

Class-M (P2.212) crash landing (P2.431).
Gas giant (P2.222) catastrophic landing (P2.435).
Moon (P2.231) possible crash landing (P2.431).

(P2.813) The normal Turn Modes and sideslip modes do not apply to atmospheric movement. See (P2.86).

(P2.82) ERRATIC MANEUVERING is prohibited in an atmosphere; (C10.24).

(P2.83) UNRESTRICTED MANEUVERS: There is no additional restriction on performing Tactical Maneuvers (C5.0), Emergency Deceleration (C8.0), or High Energy Turns (C6.0) in an atmosphere. Such maneuvers are legal in that environment unless otherwise restricted.

A ship which ends its movement in an atmosphere hex with emergency deceleration (C8.414) is allowed to expend the one point of power required by (P2.80). This one movement point would have to come from reserve power.

(P2.84) WILD WEASEL: If a WW is plotted to enter an atmosphere hex, it slows to a speed of one, enters the atmosphere by (P2.41), and continues its plotted course via atmospheric flight (P2.80). It does not land or crash, but will attempt to maneuver around the planet (through the atmosphere) until it can resume its original course. The WW takes the shortest path around the planet that will return it to its programmed course. If the two options are equal, roll a die with 1-3 meaning clockwise and 4-6 meaning counter clockwise. In the case of an airless planet or moon, use (P2.231).

(P2.85) SEEKING WEAPONS: Seeking weapons launched from a planetary surface move one hex when their speed first calls for movement. If this takes the weapon into a non-atmosphere hex, it moves normally thereafter. If not, the weapon stops and repeats this procedure on the next turn. [Seeking shuttles move like shuttles.]

(P2.851) Drone range is based (in this case) on the actual number of hexes moved. Calculate the range by multiplying the speed in hexes by the endurance in turns, then subtract the hexes spent moving in the atmosphere.

(P2.852) Plasma torpedoes use this procedure, counting each atmosphere hex (including the one they were launched in, even if the target is in that hex) as five hexes of their range for warhead strength and range determination. Bases armed with plasma torpedoes are seldom put on planets with atmospheres.

(P2.853) Seeking weapons will not enter atmosphere hexes unless their target is in that atmosphere. A weapon will remain outside of the atmosphere as long as possible before entering it to pursue the target.

(P2.8531) If the target is a ground unit (or a landed unit), the seeking weapon will enter the unit's hex on one turn and strike it in Impulse #1 of the next turn.

(P2.8532) If the target is in an atmosphere hex (or in the upper layer of a two-layer atmosphere), the weapon will maneuver until it can enter that hex, at which point it will strike the target immediately.

(P2.8533) If the target is in a lower-atmosphere hex, the weapon will maneuver until it can enter an adjacent hex, at which point it will stop and begin atmospheric movement (one hex per turn on Impulse #32) until it strikes the target (or the target leaves the atmosphere and the weapon can also do so).

(P2.86) SHIELDS, FIRING ARCS: A unit flying in an atmosphere has some of its shields and weapons arcs blocked. Just which ones depend on what maneuvers it has made.

(P2.861) Units in the upper hex of a two-hex-deep atmosphere have their normal facing.

(P2.862) Units which enter an atmosphere/surface hex have, for the remainder of the turn, their normal facing for entering that hex.

(P2.863) Units which are in an atmosphere hex side without landing may, on Impulse #32 of each turn, change their facing to any direction they wish. They will then have the 180° firing arcs (which also define what units can fire at them) provided by (P2.62).

(P3.0) ASTEROIDS

Asteroid belts are common navigational hazards and are portrayed in *STAR FLEET BATTLES* by these rules. Asteroid counters are provided in the game.

The rings of gas giants (P2.223) are treated as asteroid hexes with certain modifications.

Eighteen asteroid counters are provided with *Basic Set*. More are found in some other products. These are used as per (P3.1). Maps portraying an Asteroid Belt, an Asteroid Field, and the gap in a large and dense asteroid field known as Blackfoot Pass, are included in *Captain's Scenario Modules*.

(P3.1) LAYOUT OF AN ASTEROID FIELD

(P3.11) LAYOUT: Unless different procedures are specified in the scenario, use this system to set up an asteroid field. Place one asteroid counter in each of the following hexes: 0505, 0713, 1007, 0522, 0730, 1024, 1905, 2113, 2407, 1922, 2128, 2424, 3322, 3513, 3807, 3305, 3528, and 3824. Roll one die for each counter and move it in the indicated direction one hex. This establishes the position of the asteroid counters.

(P3.12) DEFINITION: All hexes within two hexes of an asteroid counter are assumed to contain asteroids and are referred to as asteroid hexes. Hexes within the specified radius of two or more asteroid counters do not have "double asteroids" but are the same as other asteroid hexes.

(P3.2) EFFECT OF ASTEROIDS ON MOVEMENT

For every asteroid hex entered by a ship, seeking weapon, or shuttle, a die must be rolled to see if a collision has taken place. The chart below gives the results in terms of hit points on the shields.

ASTEROID COLLISION DAMAGE TABLE

DIE ROLL	SPEED			
	1-6	7-14	15-25	26+
1	0	0	0	0
2	0	0	0	5
3	0	0	3	10
4	0	2	6	15
5	0	6	10	20
6	0	10	15	30

Ships entering asteroid hexes, even if they are Tholians and are "riding a web", roll for asteroid damage normally.

A unit that is rotated by (G7.7) is treated for purposes of rolling for asteroid (P3.2), ring material (P2.223), or dust (P13.0) damage as if it was moving at the effective speed that resulted from the ships announced speeds. Shuttles rotated using (J1.621) roll for damage based on the effective speed of the ship that is attempting to land them.

Optional: The ring material chart in (P2.223) could be used for a "sparse" asteroid field if the players so choose.

(P3.21) DIRECTION: If the ship is moving forward, the #1 shield is damaged; if the ship is moving in reverse, the #4 shield receives the damage. Sideslips (C4.0) have no effect on this determination. A tumbling ship (C6.55) will take damage on the shield facing the hex entered.

(P3.22) SPECIAL MANEUVERING CASES: Certain conditions produce die roll modifiers for the table in (P3.2). A result of more than 6 is treated as 6; a result of less than 1 is treated as 1. Column shifts are independent of these die roll shifts.

(P3.221) NIMBLE UNITS (C11.21) subtract one from the die roll when rolling for asteroid damage. A final result of less than one is considered to be one.

(P3.222) ERRATIC MANEUVERING: Units using EM (C10.45), non-ship units use the next higher column on the damage chart. Ships (and other units) that expend power for movement add the EM energy to the speed rather than going to a higher column.

(P3.223) CREW, OFFICERS: Outstanding crews subtract one from the roll on the asteroid damage table (G21.228), legendary navigators reduce the collision chance by one column (G22.812). Poor crews add one to the die roll to determine how much asteroid damage is received (G21.128).

(P3.23) FOLLOWING: A unit could launch a drone, plasma torpedo, or shuttle and follow it into the asteroid hex. Also, one unit could follow another, or one weapon could follow another. This is under certain restrictions. The maximum column length is two hexes (including the hex of the leading unit, "following" units could be in either hex). Faster units cannot follow slower units.

(P3.231) The following units in the "column" must be "friendly" toward each other, either in the same hex or adjacent hexes, and following the same path. Seeking weapons must all be targeted on the same target.

(P3.232) Units using this procedure cannot perform EM (C10.45).

(P3.233) When several units of a "column" in a single hex are entering the next hex in the "path," the order that the units are entering the asteroid hex is announced before any move and only the first unit rolls for possible damage. All following units receive no damage. If the first unit is destroyed, the next unit must roll for possible damage in that hex. This may create exceptions to the Order of Precedence (C1.313). When going through the Order of Precedence, whenever you encounter a unit which has not moved that impulse AND which is part of a column, consult the Columnar Order for that Column and (at the current point in the Order of Precedence) move any units which are earlier in the Columnar Order for that Column. If a unit (voluntarily or involuntarily) leaves a column, some, all, or none of the subsequent units in that Column may leave the original Column and join the new Column, but the units in both columns will keep their original Columnar Order for the rest of the present impulse. Units can be attached to or detached from a given column at any point and are automatically detached if not in adjacent hexes at the end of any movement segment. The basic order can be changed every impulse as above.

(P3.234) Wild weasels are treated as the ship they are simulating (J3.0). The WW does not get the nimble bonus a shuttle would normally receive unless the ship it is simulating is also nimble. However, the WW is destroyed when it receives enough points to destroy the shuttle, not the ship it is simulating.

(P3.235) Non-nimble units cannot follow nimble units (C11.21) unless the nimble units give up their nimble bonus (C11.35).

(P3.236) Units (drones, shuttles, ships) held in tractor beams cannot lead other units through or themselves be led through an asteroid field, whether the tractor is applied by an ally or an enemy. Ships that have tractored other ships, or have been tractored by other ships, cannot lead other units, or be led by other units through an asteroid field. This applies whether the tractored ship is an ally or an enemy, or is moving under its own power or not.

(P3.24) PLASMA TORPEDOES: Asteroids will damage plasma torpedoes. (They are one of the few non-phaser items that will.) In this case, the chart would yield "phaser hits" that would be treated as in (FP1.61). Plasma torpedoes can follow or lead other units (P3.23).

A PPT moving through asteroids will take damage (and possibly be destroyed) as a real torpedo would. However, anything following this PPT would not be protected from damage by the PPT (and rolls for damage if the PPT was "damaged"). The PPT does not actually suffer the damage, but calculates what damage it would have taken (had it been real) and adjusts its electronic signature to this calculated level.

(P3.25) CLEARING A PATH: Any unit may fire its weapons into an asteroid hex that it is about to enter for the purpose of clearing a path and reducing the damage resulting from rapid movement through such hexes. Note that this is completely different from firing a weapon through an asteroid hex at another unit. Any weapon can be used for this purpose. Note that due to the Sequence of Play the weapon is actually fired on the previous impulse; the benefit is lost if the firing unit enters any other hex before entering the hex into which it fired. The benefit applies only to the first subsequent entry into that hex. The target asteroid hex does not provide itself any ECM benefit, but hexes fired from or through will. The fire will have no effect if not on the impulse immediately prior to entry.

(P3.251) Each point of damage scored on an asteroid hex will reduce the amount of damage to the unit resulting from entering that hex by one point. Note that the amount of damage to the unit is highly variable, and since all fire into an asteroid hex must be conducted during previous impulses, the player will not know until entering the hex and rolling a die if the fire was actually necessary or beneficial.

EXAMPLE: A cruiser fires a phaser-1 into an asteroid hex and scores 8 points of damage to the asteroids. On the next impulse, the unit enters the hex and rolls for asteroid damage. The die roll indicates 10 points of damage. This is reduced to 2 by the phaser fire. The cruiser then fires a second phaser into the next hex on his intended path and scores 4 points of damage to the asteroids. Entering the hex on a later impulse, the die is rolled and indicates no asteroid damage. The second phaser was thus wasted. There is no carry-over to other hexes.

(P3.252) Seeking weapons could be used to lead a unit through the asteroid hex (P3.23) or could be targeted on a specific asteroid hex. The seeking weapon does not take asteroid damage before exploding. A Kzinti ship, for example, could fire four drones, targeting each of them onto a different hex of its intended course through the asteroid field. [Those that pass through an asteroid hex to reach their targets might be damaged by it (P3.2).] This tactic has a side effect of broadcasting your intended course to your opponents. It can also be used to deceive opponents as to your intended course.

(P3.253) One unit cannot fire direct-fire or seeking weapons at asteroids to clear a path for another unit.

(P3.254) Units cannot perform EM (C10.45) while using weapons to reduce the effect of asteroids.
(P3.255) Some types of "weapons" cannot perform this asteroid clearing function. These include ADDs (E5.32), PPDs (E11.0), ESGs (G23.651), displacement devices (G18.0), and SFGs (G16.0).

(P3.26) LEAVING AN ASTEROID HEX: A unit takes no damage from asteroids for the act of leaving an asteroid hex. Hence, a seeking weapon launched in an asteroid hex [and a unit displaced (G18.65) into an asteroid hex] would suffer no asteroid damage if it were able to move into a non-asteroid hex on its next movement.

(P3.3) EFFECT OF ASTEROIDS ON COMBAT

The presence of several million tons of rock (broken into pieces of various sizes) can have various effects on combat. See (G24.183) for effect on special sensors.

(P3.31) LOCK-ON: Asteroids do not affect lock-on.

(P3.32) SEEKING WEAPONS passing through asteroid hexes may be damaged by the asteroids (P3.2). If fired in the same hex as their target, they do not take damage unless they leave the hex and move into another asteroid hex.

(P3.33) ELECTRONIC WARFARE: Each asteroid hex between the firing unit (or the unit guiding seeking weapons, or the unit attempting to use tractors, transporters, etc.) and the target provides to the target the benefit of one point of ECM. This includes the firing unit's hex and the target's hex (1 hex if both are in the same hex). Note that this is ECM, not range. This is regarded as natural ECM (D6.3143). Fire that passes along the hex side between two asteroid hexes counts only one of those two hexes for ECM. This can be countered by ECCM.

(P3.34) WEBS: Asteroids make good anchor points for webs (G10.1314) [and particularly for web casters (E12.544) and (E12.211)], making an asteroid field a very bad place to encounter a Tholian. (You will probably not see home again.)

(P3.35) TACTICAL INTELLIGENCE: Asteroids have an effect on tactical intelligence. See (D17.2251) and (D17.26).

(P3.36) SIZE CLASS: For purposes of being fired at, all asteroids are considered to be size class four or larger targets.

(P3.4) LARGE ASTEROIDS

Most asteroid hexes are filled with dust, small pebbles, a few large rocks, and the occasional boulder. A relatively few "large asteroids" (up to a mile in diameter) exist. Only one small or medium ground base can be placed on any given large asteroid, no bases may be placed on small asteroids. Special scenario rules might define an exception for a really large asteroid.

(P3.41) LOCATION: Generally, one such large asteroid will be in the same hex as the asteroid counter (P3.1) or in the center hex of each cluster on the Asteroid Field map in *Module B* (for example in hexes 3304, 3207, 3311, 3905, 3908, 3607, and 3714 on Panel C) if you have that out of print module available. Alternatively, these may be specified by the scenario rules.

(P3.42) LANDING: All units may land on large asteroids. The procedure is simplified by the lack of atmosphere (and any significant gravity). The unit simply ends its movement in the hex with the asteroid and "lands" on the next turn using the docking procedures in (C13.9). A ship would have to continue to use tractors in order to remain docked, otherwise it could be "pulled off" the asteroid by any other ship (with a tractor and suitable power). Units landed on asteroids without tractors could be pulled away by units with tractor beams and suitable power. Note that under (C13.14), a ship would have to continue to use tractor power even if docked to a base on the asteroid.

(P3.43) EFFECT: Units (e.g., ships) landed on large asteroids have their normal facing, firing arcs, etc.
(P3.431) The asteroid will, however, block one shield arc (of the owner's choice, which is announced upon docking and which cannot be changed without redocking) from receiving any damage. No weapons can be fired or launched through that shield.
(P3.432) The unit cannot have a lock-on to any unit within the blocked shield arc, cannot use transporters or tractors through that arc (except to or from the asteroid itself), cannot be locked onto by any unit in that arc, cannot conduct tactical intelligence observations (or be observed) through that arc, and cannot move.
(P3.433) The unit can still be detected and located through the blocked arc if its fire control is active.
(P3.434) Such asteroids cannot be towed within the context of a scenario. (They have a movement cost of 1000+ and might be moved over many turns. Impulse power cannot be used to tow something this large.)

(P3.44) SMALL BASES are often built on large asteroids; see (P2.76) and (P2.747).

(P3.45) DESTRUCTION: Large asteroids can be fragmented by 400 points of damage. This will destroy any base built on the asteroid or any ground troops deployed on the asteroid.

(P4.0) BLACK HOLE

One of the most treacherous navigational hazards in space is a "black hole" (or hypermass), a star that has collapsed inward until its matter is so dense (and hence, its gravity so great) that even light cannot escape. Within *STAR FLEET BATTLES,* the effect of a black hole is to make all units move toward a designated hex (where the black hole is located) on certain impulses, even if the units do not wish to do so. They are being pulled toward the black hole hex by powerful gravity forces.

Mark the location of the black hole with an upside down counter. A counter is provided in *Module R1* for the black hole.

A map portraying the zones of gravity around a black hole was included in *Captain's Module B;* that module is out of print but if you have it you could use that map.

(P4.1) PROCEDURE

Movement in response to a black hole is governed by the chart below. During the specified impulses, all units (including cloaked units) within the specified range are moved one hex closer to the black hole hex. This is done during the Involuntary Movement Stage. The units are moved in order of those closest to the black hole first and proceeding outward. Units at the same range are moved simultaneously (B2.4).

IMPULSES	RANGE
Every	2 hexes
2, 5, 8, 11, 13, 16, 19, 22, 24, 27, 29, 32	5 hexes
5, 11, 16, 22, 27, 32	10 hexes
11, 22, 32	20 hexes
32	30 hexes

(P4.11) PROCEDURE: During each of the stated impulses, all units within the stated range are moved one hex closer to the black hole hex. For example, a unit nine hexes from the black hole hex would be moved one hex toward it during both the 5th and 11th impulses (and several others) of the turn. If there is a choice between two hexes, the owning player of each unit makes the choice.

If a unit is moved by the Black Hole, any units to which it is linked by tractor beam will also be moved. If two units linked by a tractor beam are pulled in different directions on the same impulse by two different Black Holes, each ship is moved independently. If the ships move farther apart, the ship generating the tractor beam may have to apply more energy to maintain it at the new range. If insufficient energy is available to maintain the tractor beam at the

new range, or if the range exceeds the maximum limit for tractor beams (usually three hexes), the link is broken. If two units linked by a tractor are pulled closer to a black hole, the closer unit will pick which hex it will enter, if there is a choice between two hexes, and the other unit will precisely mirror the first ship's movement.

(P4.12) FACING: Movement by a black hole does not change the unit's facing.

(P4.13) STABILIZERS: Units with active stabilizers (G29.27) cannot be moved by a black hole.

(P4.14) MINES are moved by black holes (M2.21).

(P4.2) EFFECT OF A BLACK HOLE

(P4.21) ENTERING A BLACK HOLE: Any unit entering the hex of a black hole is immediately destroyed. This results in a burst of radiation equal to the explosion force of the unit as calculated in (D5.2); note that some smaller (size 6 and 7) units do not generate explosions. This burst is resolved by (P5.2) below. Note that mines which fall into a black hole are size class seven objects and will not trigger a radiation burst, or even explode.

(P4.22) SEEKING WEAPONS are affected by (P4.1) above. Additionally, if the target is within 10 hexes of the black hole, it gains the benefit of two points of ECM. This is not cumulative with (P4.24).

(P4.23) DIRECT-FIRE WEAPONS cannot be fired if the line of sight (the direct line between the center of the firing unit's hex and the center of the target's hex) passes within two hexes of a black hole. See (D17.151).

(P4.24) ELECTRONIC WARFARE: If the line of sight passes within 10 hexes of the black hole, the target gains the benefit of two points of ECM. This is not cumulative with (P4.22).

(P4.25) INVIOLABILITY: A black hole cannot be put in stasis (G16.61). A black hole cannot be displaced (G18.72).

(P4.26) ESG: An expanding sphere cannot be generated into a hex within five hexes of a black hole. In this case, an ESG works as it would with a web (G23.85).

(P4.27) TRANSPORTERS: Transporters (G8.0) cannot be used through or along the edge of a black hole hex.

(P4.28) DISENGAGEMENT: No unit can disengage (C7.0) when within 10 hexes of a black hole or when a black hole is in its FA firing arc and within 100 hexes. A unit cannot disengage by sublight evasion (C7.36) if within 30 hexes of the black hole.

(P4.29) GRAVITY WAVES: Some Black Holes produce gravity waves (P9.4).

(P5.0) VARIABLE PULSAR

Another major menace to navigation is the variable pulsar, which periodically emits a burst of hard sub-space radiation, causing major damage to all units in the area. If a pulsar is called for in a scenario, it is placed into a specific hex. If used in a scenario designed by the players, it should be assigned a specific hex.

(P5.1) PROCEDURE

The pulsar emits a burst of radiation during a randomly selected Impulse Activity Segment (Annex #2) of a randomly selected turn.

(P5.11) TURN SELECTION: The pulsar automatically emits a burst on the first turn of the scenario. After each burst, roll one die to determine how many turns later the next burst will occur. A result of "1" indicates that the next burst will be on the immediately following turn.

(P5.12) IMPULSE SELECTION: At the first of each turn during which an outburst is scheduled to occur, roll six dice and total the results. A result of: 33 is considered to be 2; 34 is considered to be 3; 35 is considered to be 4; and 36 is considered to be 5. The final result is the impulse on which the pulsar emits its outburst. Thus, the outburst cannot happen on the first impulse.

(P5.13) REGULAR PULSAR: These rules cover a randomly-variable pulsar. It is, of course, entirely possible that the pulsar in question is regular, rather than variable, in its cycles. (Such a decision is up to the players; the pulsar is variable unless they decide otherwise in advance.) Since this effect can be tracked from considerable distances, the length of each cycle (in impulses) is well known in advance. It should be selected randomly (the total of several dice is suggested, or take the average of the last two digits of the birth years of all the players), and thereafter the outbursts will occur regularly at that interval (in impulses). In all other ways, a regularly-variable pulsar acts as a randomly-variable pulsar.

(P5.2) EFFECT OF THE PULSAR

The pulsar has a base strength (determined below) which is reduced with range from the pulsar.

(P5.21) BASE STRENGTH: Each time the pulsar emits an outburst, roll one die and multiply the result by 10. This is the base strength of the pulsar.

(P5.22) RANGE EFFECT: The distance from the pulsar to each target has an effect on the strength as follows:

0-5 hexes	=	100% strength
6-10 hexes	=	75% strength
11-20 hexes	=	50% strength
21-50 hexes	=	25% strength

(P5.23) DAMAGE: Each (and every) unit within 50 hexes of the pulsar receives a number of damage points equal to the appropriate percentage of the base strength. These are scored on the shield facing the pulsar (assuming that the unit has shields).

Units without shields are damaged directly.

When calculating the amount of damage, round fractions of 0.499 down and those of 0.500 up.

Mines will not be damaged by a pulsar (M2.22).

Each 12 points of damage blinds one powered scout channel (G24.133).

(P5.3) OTHER EFFECTS

(P5.31) NO EFFECT: Cloaking devices, wild weasels, SWACs, stealth, and EW will not protect a unit from the effects of the pulsar. (Nothing will unless it is specifically described as doing so.)

(P5.32) DIRECT-FIRE WEAPONS cannot be fired into or through a pulsar hex.

(P5.33) PLASMA TORPEDOES: Plasma torpedoes (and PPTs) are affected by pulsars. Damage to a plasma torpedo is treated the same as damage from phaser fire.

(P5.34) ENTERING HEX: Any unit entering the hex of a pulsar is destroyed.

(P5.35) OTHER EFFECTS:
(P5.351) No unit can disengage (C7.0) when within 10 hexes of a pulsar or when a pulsar is in its FA firing arc and within 100 hexes.
(P5.352) A pulsar cannot be put in stasis or displaced. See (G16.61) and (G18.72).
(P5.353) Transporters cannot be used through or along the edges of a pulsar hex.
(P5.354) Planets (P2.5472), and to a lesser extent webs (G10.751), will block the effects of a pulsar.
(P5.355) Pulsars have the same EW effects as a black hole (P4.24). The penalty in (P4.24) also applies.

(P6.0) NEBULAE

Large gas clouds are located in various parts of the galaxy. These have various effects, which are reflected by these rules. The gas clouds are highly charged with electrical power and swept by turbulence. Ships can generate (and use their built-in) EW normally, but because scout functions do not work, EW cannot be lent except for self-defense jamming.

(P6.1) SIZE: Nebulae are several maps across. Thus, if a given scenario is to take place within a nebula, the entire map will be considered to be inside the nebula and units will be unable to leave the nebula. Players could assume that their battle is at the edge of a nebula and define that edge with upside down counters or simply note the hex row.

(P6.2) ELECTRONIC WARFARE: All units within a nebula automatically have nine points of ECM provided by it.

(P6.3) SHIELDS: Shields only function at minimum level in a nebula. Specific shield reinforcement cannot exceed five points per shield; general reinforcement cannot exceed five shield points total. The five-point limits are at any given time. As points are used, additional points can be added.
(P6.31) Each PA panel BOX receives one point of energy (equivalent to damage) on the 8th and 24th impulse of each turn (in the Involuntary Movement Step). Energy discharge is normal. PAs cannot be operated at reinforced levels inside a nebula. As with shielded units, nebula damage cannot produce internal damage. If a panel is full, it does not suffer additional damage or allow nebula damage to enter the unit.

(P6.4) SMALL UNITS:
(P6.41) Fighters and shuttles are automatically destroyed if launched inside a nebula or if they enter one.
(P6.42) Wild weasels are destroyed before they can begin to function.
(P6.43) Drones fired inside a nebula function normally [other than warp-seeking drones (FD5.1), which cannot be used]. See (P6.73).

(P6.5) RANDOM MOVEMENT: During the Movement Segment of Impulses #5, #15, and #26, all units (including seeking weapons) are moved one hex in a random direction (determined by die roll; use the arrows around hex 0328) and may have their facing changed to a new direction (determined by die roll). This random movement does not affect turn or sideslip modes.

The die roll for change of facing is as follows:

1-2 = 60° Left
3-4 = No Change
5-6 = 60° Right

Seeking weapons are unaffected by change of facing die rolls.

A ship with a legendary navigator (G22.84) ignores the random effects on Impulses #5 and #26.

Players could elect to play in a "quiet nebula" which does not cause the (P6.5) effects.

(P6.6) NON-FUNCTIONAL SYSTEMS: The following systems will not function at all within a nebula: chaff, tractor beams, transporters, webs, cloaking devices, stasis field generators, EW lending (including ECM drones), expanding sphere generators, displacement devices, scout functions, mines, ATG, and dogfight drones. Andromedan TR beams cannot be used as tractor beams (E9.42), but otherwise operate as any other heavy weapon in a nebula.
(P6.61) EW generated by a ship or that is natural to the unit operates normally in a nebula.
(P6.62) Scout functions operate normally outside the nebula, but can have no DIRECT effect on anything inside a nebula, see (G24.1852).
(P6.63) If an ESG extends into a nebula, the entire ESG field is immediately reduced to strength zero before any other interactions are considered.

(P6.7) DEGRADED EFFECTS: Many systems are degraded when operating inside a nebula.
(P6.71) When calculating the information received by labs, add three to the true range to determine the effective range.
(P6.72) Probes (fired as weapons or for information) have a maximum range of two hexes. There is no effect on the die roll to score a hit.
(P6.73) Drones traveling within a nebula receive 1/4 point of "phaser damage" for every hex entered. Plasma torpedoes receive 1 point of "phaser damage" (1/2 point of warhead reduction) for every hex entered.

(P7.0) THE WYN RADIATION ZONE

The WYN Star Cluster is surrounded by a zone of intense radiation. This is different than (P15.0).

Ships which enter or depart WYN space can only do so by moving through the WYN radiation zone at high warp speed (greater than combat speeds). Only ships which have at least one box of shielding on every shield position and which are capable of disengaging by acceleration (C7.1) may make the attempt. For exceptions to these requirements, see (P7.7), (P7.8) and (P7.9). See (P7.5) for the case of small units.

When ships emerge from the zone, they undergo a process of recovery which makes them vulnerable to attack. These rules are used during the first turns of certain specifically designated scenarios. They reflect the condition of ships which have just left the zone.

(P7.1) WARP ENGINE POWER

(P7.11) WARP POWER: The warp engine power of all ships is reduced as follows:

Turns #1-#4	Each warp engine box produces 0.5 units of power.
Turns #5-#6	Each warp engine box produces 0.75 units of power.
Turns #7 and later	The engines operate normally.

Round fractions of .5 or more on a given ship up. This applies to the entire ship, not to each engine. For example, a ship with 15 warp

boxes would have 8 points of warp power during turns #1-#4 and 11 points on Turns #5-#6 (assuming no damage).

(P7.12) OTHER POWER: Impulse engines, reactors, and batteries are not affected.

(P7.2) SENSOR RATING

(P7.20) REDUCTION: The sensor rating of all units is reduced as follows:

Turns #1-#3	Maximum of 2.
Turns #4-#6	Maximum of 3.
Turns #7-#8	Maximum of 4.
Turn #9	Maximum of 5.
Turn #10 and later	Normal.

The players are reminded that many functions are dependant on sensor ratings, such as EW generation (D6.310) and seeking weapon control (F3.2). For many players, a WYN scenario is the first time they have had to deal with a sensor rating less than six.

(P7.21) LOCK-ON: Each unit with active fire control rolls for lock-on the first time (each turn) it wishes to fire direct-fire weapons or launch seeking weapons. If successful, see (P7.214). If unsuccessful, see (P7.213).

Note that this is a general situation, i.e. a lock-on to all units and not a lock-on to any specific unit. This is an exception to (D6.11). A unit might roll for lock-on to use some other system requiring active fire-control such as transporters or tractors. A unit is not required to take any action simply because it rolled for lock-on.

(P7.211) Each unit may make only three such attempts per turn before Turn #10. See (P7.24).

(P7.212) If an attempt fails, the weapons remain armed (unless some other factor would alter this, e.g. non-holdable weapons at the end of the turn) and the ship may make further attempts later (within the limit of three attempts per turn).

(P7.213) A ship without this "general lock-on" is treated as a ship without active fire control (no passive fire control bonus). The ship could turn its fire control off, making no attempts to gain lock-on, and (within the rules) gain the (D19.31) bonus.

(P7.214) If successful, the ship has a lock-on during that impulse and for the next seven impulses (i.e. until the Lock-On Stage of the 8th subsequent impulse), after which the lock-on is lost. If a lock-on die roll during (or before) that 8th impulse is successful, lock-on is deemed to be continuous, but extends 8 impulses from the die roll (as above) not from the end of the previous lock-on period. If an unsuccessful die roll is made while the ship has a lock-on, that lock-on is lost. See (F2.63) for additional information on seeking weapons.

(P7.215) Units must have active fire control to pass through the radiation zone; without it they would become lost.

(P7.22) SEEKING WEAPONS: If a lock-on is achieved and a seeking weapon launched, the lock-on is retained (even into later turns) to that target for purposes of that seeking weapon (only) until:

- the seeking weapon is destroyed or hits the target,
- the lock-on is lost for some other reason (e.g. target goes behind a planet), or
- the next unsuccessful lock-on die roll.

(P7.221) If the lock-on is lost for any reason, seeking weapons with their own tracking (e.g. plasma torpedoes) may roll to retain the lock-on using the sensor rating of the firing unit at that time, but control of the weapon cannot be transferred. If a self-guiding seeking weapon is voluntarily released, it must roll (with the sensor rating of the controlling ship) for its own lock-on; if this fails, the weapon goes inert. (Technically, a plasma torpedo would go ballistic, but there is nothing for them to hit in the border region.)

(P7.222) The same procedure applies to PPDs.

EXAMPLE: An ISC CA is in its 7th turn of zone recovery, giving it a sensor rating of 4. On Impulse #18, the CA successfully gained a general lock-on (when it launched a plasma torpedo at an incoming WYN PF). On Impulse #25, the CA (which still has a general lock-on) fires its PPD at a WYN AuxC. On Impulse #26, the PPD will fire its second pulse, which will have its normal chance of hitting (automatic if wavelock was gained during the first pulse) because, even though the general lock-on is lost on this impulse, it is not lost for purposes of continuing the PPD pulses which were begun when the lock-on was still effective. On the other hand, if the CA decided to roll to retain the lock-on on Impulse #26 or to gain a new general lock-on on Impulse #27 (perhaps in order to fire some other weapons) and that roll failed, then the specific lock-on from the PPD to the AuxC is lost too and the PPD will lose its remaining pulses.

(P7.223) Control of seeking weapons can be transferred within the normal rules, but a die must be rolled at the time of transfer. If the die roll is larger than the sensor rating, the transfer has failed and the seeking weapon is released.

Tactical Note: A ship with seeking weapons in flight that wishes to launch more or to fire direct-fire weapons faces a difficult choice. Without the die roll, weapons may be impossible to use or at a lesser effect, but making the die roll risks losing those seeking weapons in flight.

(P7.23) REDUCTIONS: These maximum sensor ratings are unaffected by application of ECCM power but might be further reduced by damage, but only if the nominal rating after damage is less than the maximum. See (D6.310).

(P7.24) SUBSEQUENT ATTEMPTS: No attempt to gain a lock-on may be made within four impulses of a previous attempt.

(P7.25) NO LOCK-ON: Ships without lock-on may fire using (D19.0).

(P7.26) SPECIAL SENSORS are blinded for 10 turns after passing through the zone; see (G24.19).

While weapons fire will still blind the channels during this period, this will extend 32 impulses from the time of firing (which, unless it is done on Turn #10, will make it pretty irrelevant), and as an unpowered channel cannot be blinded (and only a fool would power a channel that he could not use), the point is moot anyway.

(P7.3) LEAVING THE WYN CLUSTER

(P7.31) GENERAL: Ships emerging from the WYN radiation zone (such as Orion Pirates returning from "trade" missions) also suffer the effects of the radiation. This makes them vulnerable to enemies waiting outside the cluster for them to appear.

(P7.32) WEAPON STATUS: Units leaving the zone are at WS-III as they are expecting trouble during the vulnerable period. (They cannot form a Pinwheel.) This does not apply to ships outside of the cluster encountering ships which are leaving the cluster.

(P7.4) ENTERING THE WYN CLUSTER

(P7.41) ENEMY SHIPS: Ships entering the WYN radiation zone are expecting combat immediately (it's the only chance the WYN's have to defeat them) and will be at WS-III. (They cannot form a Pinwheel.)

(P7.42) FRIENDLY SHIPS: WYN (and allied) ships already inside the cluster will know that enemy units are penetrating the zone and will be at WS-III.

(P7.5) SMALL UNITS

Shuttles and fast patrol craft (PFs) may not penetrate the zone (entering or leaving) unless carried by ships.

(P7.51) SHUTTLES: Fighters and shuttles (other than wild shuttles) may not be launched until the fifth turn after the launching ship leaves the zone (i.e. Turn #6 in most scenarios). They would be under the restrictions of (P7.2). This includes seeking shuttles.

(P7.52) FAST PATROL SHIPS: PFs may launch on Turn #1 (or later) but are considered to have been affected as ships have been.

(P7.53) SEEKING WEAPONS may not be launched before Turn #1 even though the units are at WS-III.

(P7.54) LEGENDARY pilots and PF crews return on the next Orion ship leaving the cluster, having had several romantic encounters during the trip. However, for each such pilot/crew, roll one die, with a "6" result meaning that they instead defected to the WYN fleet.

(P7.6) DEPTH

The zone is several thousand hexes thick. Weapons (seeking and direct-fire) cannot be fired through it by units on either side. Even type-III-XX drones on "wild boar" missions cannot penetrate the zone due to range and radiation. Briefly (less than one turn) re-entering the radiation zone does not restart the "turn counts" in (P7.1) and (P7.2). A unit which remains in the radiation zone for a 33rd consecutive impulse reverts immediately to the "Turn #1 condition" (which lasts the remainder of that turn; the next turn counting as Turn #2).

(P7.7) ANDROMEDAN SHIPS

Andromedan ships can never penetrate the radiation zone; they would die of radiation without their panels, and the panels would overload long before the ship penetrated the zone, causing it to explode. (They could not even penetrate the zone with robot pilots.) Their displacement devices do not have the range to move a ship across the zone. The Andromedan Rapid Transport Network cannot function through the zone. This applies even in the case of a hypothetical WYN-Andromedan alliance in a non-historical campaign.

And how is it known that the RTN won't function through the zone? This will be explained in a future campaign about the one and only Andromedan attempt to do so.

(P7.8) OTHER UNITS

Freighters, sublight ships, and crippled warships lack the speed or shielding to penetrate the zone while carrying crews and can only do so when under robot control (P7.95).

(P7.9) AFTER THE BATTLE

Towards the end of a given battle, the non-WYN player must evaluate his ships and the overall situation. (This could also apply to WYN ships outside of the cluster trying to get back inside.)

(P7.91) VICTORY: If he is winning, he will want to remain inside the cluster for a direct assault on WYN planets and resources, possibly after more forces were brought through the zone under protection of his recovered ships. As his forces will not be under any of the above penalties, this would spell doom for the WYNs, unless they could trust one of the other powers enough to invite them into the cluster.

(P7.92) EVACUATION: If he is losing and plans to evacuate (i.e. disengage back through the radiation zone), he faces a problem. Sublight ships and those which are "zone-crippled" (P7.93) cannot penetrate the zone except under robot control, so they must be self-destructed or set on a robot course (P7.95) before the end of the scenario or they will be considered captured by the WYN player.

(P7.93) ZONE CRIPPLED: Ships which cannot move at a speed of 16 or more (while paying for full shields, active fire control, and – if not crippled – life support) are considered "zone-crippled." This speed can include the use of one point of impulse power. Ships unable to make Speed 16 cannot enter the zone with a crew on board except by (P7.95), but could remain on the board (i.e. the scenario would not end) while they tried to repair enough power systems to disengage, perhaps by (P7.941). Low-powered fire control (D6.7) can be used. The ship must have power applied for full shields and at least one undestroyed box in each shield.

(P7.94) DOWN SHIELDS: Ships which are not zone-crippled, but which have one or more down shields, may enter the zone and begin to move through it while repairing its down shields.

(P7.941) Ships with down shields which attempt to traverse the zone will lose 1-6 crew units (roll a die) at the end of each turn. [Half of these will be wounded (G9.23), but the wounded will die if the ship does not qualify for (P7.942) before all crew units are killed or wounded. The last crew unit, even one composed of legendary officers, CAN die by this method.] As many "pseudo-turns" as are necessary will be conducted after the scenario is "over," but the only thing done during these turns is to repair shields. The ship must move at a speed of at least 16 and pay for shields, life support, and active fire control during this period. These effects are different from (P15.0), which does not apply to the WYN radiation zone.

(P7.942) Once every shield on the ship has at least one box, the ship disengages through the zone by acceleration.

(P7.943) If the entire crew dies, the ship will wander out of control and eventually run out of fuel. At that point, there is a 1/3 chance it will be found by the original owners, 2/3 chance it will be destroyed.

(P7.95) ROBOT CONTROLS: Setting a zone-crippled ship under robot control takes one full turn, at the end of which the ship must be heading toward the zone and have fire control active; it is considered to have successfully disengaged when it enters the zone. If there are crew units on board, life support must be paid unless it is crippled (S2.4). (Any crew units on board will die before they escape the zone.)

(P7.951) Enemy boarding parties have the same chance to prevent the robot pilot from being set as they do to halt self-destruction (D7.7).

(P7.952) The ship cannot simultaneously prepare for self-destruction and a robot pilot.

(P7.953) If there is more than double a minimum crew on board the ship at the end of the disengagement turn, there is a 33% chance (1-2 on a die roll) that the crew will mutiny, abort the disengagement, and surrender. This mutiny applies to any race. Klingon ships, with their unique counter-mutiny systems, would have some possibilities, such as the officers retaining control of the boom section and ordering self-destruction. See (G6.4).

(P7.954) A ship able to exit at a speed of 16 or more would be available in the next campaign round. A ship able to exit at a speed of 5-15 would be available on the second subsequent campaign round. A ship able to exit at a speed of 4 or less would not survive passage through the zone and would be treated as per (P7.943).

(P7.96) SMALL UNITS: Roll a die for each shuttle, fighter, or PF left behind after a non-WYN fleet evacuates (or after a WYN/Orion force retreats into the zone). If the die roll is 1-5, the unit self-destructed. If the die roll is 6, the unit was captured. A SWAC shuttle left behind will *always* self-destruct, although it could be captured during the scenario.

(P8.0) STANDARD ORBITS

When a base (or other unit) is designated by a scenario as being in a "standard orbit" around a planet, the base is placed (at the start of the scenario) in a hex adjacent to the planet (designated by the scenario) and revolves around the planet, moving in a circular path at a speed of one hex per turn. The term "planets," in this context, includes moons but not asteroids, bases, or other terrain features.

(P8.1) ORBIT DEFINITION

Unless otherwise noted in the scenario (or by the player owning a unit entering orbit), the base (or other unit) is presumed to orbit in a clockwise direction. For example, if the planet was in hex 2215 (a very common location), and the base was designated as starting in 2214, then the base will enter, in subsequent turns, hexes 2315, 2316, 2216, 2116, 2115, and finally return to 2214 every sixth turn.

(P8.2) MOVEMENT

(P8.21) SEQUENCE: The actual movement from one hex to another takes place during the Movement Segment of Impulse #32 of each turn (the last impulse of the turn, as any Speed-1 unit). The facing of the base has no effect on movement.

(P8.22) EFFECT OF MOVEMENT: The movement of the orbiting unit can set off mines and/or cause any other event that would normally be caused by movement at a speed of one hex per turn. Exception: DefSats (R1.15G).

(P8.23) STASIS: Units with SFGs (G16.31) can use them while in orbit so long as the ship expends no energy for any movement related function, including Tactical Maneuvers because of orbit stabilization (P8.432). [This is similar to an SFG ship being dragged towards a black hole (G16.66).] Note that zero energy turns (P8.433) can be used without breaking the stasis field so long as the SFG field remains in arc. As the SFG unit continues in its orbit the target of an SFG field may no longer be in arc (P8.411) resulting in a broken stasis field (G16.14). Note that starbases (R3.100), whose SFGs have a 360° arc, will not have the facing problem, but the generator may orbit out of range or be blocked by the planet around which the starbase is orbiting. An orbiting unit placed in stasis stops; it resumes its orbit when released from stasis.

(P8.24) WEB: A unit in orbit which enters a web hex (presumably a newly created one) with a strength of one or more will stop; it will resume orbital movement if the web dissipates to zero strength.

(P8.25) MINES: Because of the requirements of (M8.11), an orbiting unit can only sweep mines by using seeking weapons under (M8.2).

(P8.3) ROTATION

Bases in standard orbit can rotate at any rate allowed in (C3.71). The orbit has no effect on the rotation rate; the facing of the base is defined by its rotation speed and not by the direction to the planet.

(P8.4) SHIPS IN ORBIT

Ships (and some other units) can enter into standard orbit.

(P8.41) ESTABLISHING ORBIT: To do this, move the ship into a hex adjacent to the planet and stop all warp movement (by any means within the rules, but usually by ending the turn there, emergency deceleration, or a speed change).
(P8.411) The ship must turn to face the next hex in a standard orbit (path). It can do this by a free zero-energy turn of no more than 60°, which can be made on the next impulse. (Doing so will irrevocably commit the ship to enter an orbit, i.e., it must pay the orbital insertion energy and plot Speed Zero on the next Energy Allocation Phase.) Alternatively, the ship can use normal Tactical Maneuvers or High Energy Turns to attain the proper facing. The ship cannot move further on that turn after committing to go into orbit.
(P8.412) During the subsequent Energy Allocation Phase, the ship expends one point of impulse power for "orbital insertion." The ship cannot expend other engine power for movement purposes except as provided below.
(P8.413) Thereafter the ship will, on the last impulse of each turn (including the turn of insertion), enter the next hex of the orbital path without any power being used, turning 60° as necessary (which will be every turn in a six-hex orbital path around a one-hex planet). Bases rotate rather than turning.

(P8.42) LIMITATIONS: After establishing an orbit, the ship cannot use impulse or warp energy for movement, except for Tactical Maneuvers (P8.43). The ship does not rotate (as bases would) but can use Tactical Maneuvers (of either type).

(P8.43) TACTICAL MANEUVERS: An orbiting ship can use Tactical Maneuvers.
(P8.431) These will offset the ship's facing from the orbital direction, but the ship will continue to turn 60° as it rounds each "corner" of the orbit.
(P8.432) Each time the ship uses a Tactical Maneuver, the ship must also spend energy equal to the cost of one hex of movement (must be power usable for movement) to stabilize its orbit. This is an exception to the normal cost of Tactical Maneuvers.
(P8.433) Zero-energy turns (C5.13) can be made in orbit and do not require stabilization energy.

(P8.44) LEAVING ORBIT: The ship can break out of orbit at any time by simply allocating energy for normal movement. It could also be pulled out of orbit by a tractor beam. If the ship commits a prohibited action, the orbit movement simply stops and the ship begins normal movement.

(P8.45) ERRATIC MANEUVERING: Ships in orbit cannot use Erratic Maneuvering (C10.0).

(P8.46) DECAYING ORBITS: The time scale of the game is not sufficient to require rules for decaying orbits. This would never happen during a scenario. A ship left without power in a standard orbit at the end of a scenario must be able to repair an engine box during the next 50 turns (after the scenario is over) or be towed away by a friendly unit, or it will be considered to have landed on the planet several hours after the scenario is over. See (P2.4) to resolve a landing and subsequent rescue, and note that a unit unable to use the landing systems provided will crash (P2.431).

(P8.47) NON-SHIP UNITS: Some non-ship units can be placed in orbit; others cannot.
(P8.471) Defense satellites and shuttles can be placed in orbit prior to the beginning of a scenario. Shuttles can, like ships, enter orbit during a scenario.
(P8.472) Mines, monsters, and seeking weapons cannot be placed in orbit. Some of these units could, within the limitations of their rules, enter a hex near a planet and simply stop movement.

(P8.5) HIGHER ORBITS

Orbits can be established at a distance of two or three hexes from the planet's surface. These operate exactly as above, except that the unit in orbit requires more time to complete each orbit.

Radius is measured from the center hex of a multi-hex planet (and obviously must be greater than the radius of the planet including its atmosphere; units cannot orbit through atmosphere hexes).

(P8.51) RADIUS 2: (Diameter 5): Planet in 2215. Orbit is 2213, 2314, 2414, 2415, 2416, 2317, 2217, 2117, 2016, 2015, 2014, 2114, 2213.

(P8.52) RADIUS 3: (Diameter 7): Planet in 2215. Orbit is 2212, 2313, 2413, 2514, 2515, 2516, 2517, 2417, 2318, 2218, 2118, 2017, 1917, 1916, 1915, 1914, 2013, 2113, 2212.

(P8.6) LARGER PLANETS

In the case of gas giants of various sizes, the ship must orbit above the atmosphere, but can do so one, two, or three hexes above it. Naturally, as the planet is several hexes across, the orbital radius will be much larger and the orbital period correspondingly so.

Units cannot establish orbits in ring hexes (P2.223).

RADIUS 6: (Diameter 13): Surface of Saturn in 2210-2713-2718-2220-1718-1713-2210. Orbit is 2209-2812-2818-2221-1618-1612-2209 (just above cloud tops and well inside rings).

(P9.0) GRAVITY WAVES

Some large black holes (and other conditions) can produce gravity waves. These are, to some extent, like large waves (tidal, tsunami, etc.) on the ocean, i.e., a moving line of destruction.

(P9.1) DESIGNATION

(P9.11) COUNTERS: Use two counters to designate a gravity wave. These counters are moved along the map edges; the row of hexes between the counters represents the gravity wave. For example, 2201 and 2230 define a gravity wave, as do 0111 and 2101.

(P9.12) DEFINITION: In a scenario, a gravity wave is defined in this format: 20-point gravity wave in 0501-0103, moving in direction C/D. Note that this wave will do 20 points of damage to a ship, 10 points on each of two shields (P9.31).

(P9.2) MOVEMENT

The gravity wave moves at a speed of one hex per impulse. Note that in some cases, due to the edges of the hex grid, it might be necessary to move one of the markers two hexes. In the above example, the counter in 2101 would be moved to 2301.

(P9.21) SEQUENCE: Gravity waves advance in the Involuntary Movement Stage (6A1). Their effect is applied immediately in the Involuntary Movement Stage (6A1) and not delayed until the Damage During Movement Stage (6A3). If a unit enters the hex of a gravity wave during the Voluntary Movement Stage (6A2), the effect of the gravity wave is resolved immediately after all units have completed their movement and not delayed until the Damage During Movement Stage (6A3). In this case a seeking weapon might be destroyed by a gravity wave before it struck its target even if both units entered the hex of the gravity wave on the same impulse.

(P9.22) LAUNCH: Units launched in the same hex as a gravity wave are treated as having entered the hex of a gravity wave (P9.3) at the point in the sequence of play in which they were launched. Units that are displaced into a hex of a gravity wave are damaged on arrival in that hex

(P9.3) EFFECT

When a gravity wave enters a hex occupied by a unit (or vice versa), the following effects are applied to the unit:

(P9.31) DAMAGE: Damage points equal to the strength of the wave are distributed equally to the unit's two facing shields. Assign any odd points to either shield at the owning player's option. Each 12 points of damage (total) blinds one powered scout channel (G24.133).

EXAMPLE: A ship is in 1813 facing F. The gravity wave is in 1713-1812 (extending to each side) moving C-D. Shields #1 and #2 are facing the gravity wave and take the damage.

(P9.311) Andromedans take the damage on the PA panel(s) that cover the arcs of the indicated shields. (This might be in one set of panels or divided over two, depending on facing.) Andromedans can displace over the wave and avoid receiving any damage. A satellite ship transported over a wave would not take wave damage.

(P9.312) Units without shields are damaged directly at the basic strength of the wave. Plasma torpedoes are not damaged by gravity waves, but are considered to have expended range equal to the strength of the wave at the time of impact.

(P9.313) Monsters are affected by gravity waves just as ships are. The effect on some monsters (and others, depending on the die roll determination of how to kill them) will be academic.

(P9.314) Units in stasis are unaffected (G16.41), but the SFG unit must drop its field (G16.31) when hit by the wave.

(P9.315) Gravity waves will not damage mines or DefSats.

(P9.316) Gravity waves do not affect direct-fire weapons fired into, out of, or through gravity wave hexes.

(P9.317) Docked units will remain docked while in a gravity wave. Other systems (including tractors and transporters) function normally, unless otherwise stated. See (G13.48) for cloaked units.

(P9.32) FACING: The gravity wave will turn the unit (except a base) 60° to face parallel to the wave. In the above example, the ship would be turned to face in direction E, i.e., along the length of the wave. If the ship is already parallel (shields #2 and #3 affected, or #5 and #6 affected) the unit is not turned. Turn and sideslip modes are not affected.

(P9.33) TERRAIN: Gravity waves generally ignore terrain. They do not damage it, their effect is not reduced by it, and no type of terrain creates a "shadow" in the wave.

(P9.331) Units landed or built on planets [including moons (P2.23), not including large asteroids (P3.44)] are unaffected by gravity waves.

(P9.332) Units flying in atmospheres (or using low-flight above a planet or moon without an atmosphere) are affected normally. In addition, there is a 50% chance of an immediate crash landing (P2.431) if the ship is in a hex containing a planetary surface.

(P9.333) Webs block gravity waves (G10.751).

(P9.4) GRAVITY WAVES PRODUCED BY BLACK HOLES

Some black holes (P4.0) produce gravity waves. To add this effect to a black hole, assume that a black hole generates a 100-point gravity wave every 10th turn, beginning on Turn #5 of the scenario.

(P9.41) SPHERICAL WAVE: The gravity wave generated by a black hole expands spherically (an expanding ring), rather than in a straight line. Each impulse, the wave moves one hex in all directions from the black hole. (While the gravity is pulling toward the hole, the effect of the wave is moving outward.)

(P9.42) FORCE OF WAVE: The force of a wave generated by a black hole is reduced approximately 10% each impulse, according to the chart below:

Impulse	Force	Impulse	Force	Impulse	Force
1	100	12	31	23	10
2	90	13	28	24	9
3	81	14	25	25	8
4	73	15	23	26	7
5	66	16	21	27	6
6	59	17	19	28	5
7	53	18	17	29	4
8	48	19	15	30	3
9	43	20	14	31	2
10	39	21	12	32	1
11	35	22	11		

The impulse will show the radius of the wave from the hole. Remember that normal gravity waves do not lose strength.

(P9.43) CORNERS: In the case of a gravity wave generated by a black hole (P9.41), it might be possible for only one shield to be facing the gravity wave (on the "corner"). In this single case of a wave facing one shield, distribute the damage over the three facing shields as evenly as possible (any odd points distributed by owner of the ship, one per facing shield); no change in facing is caused by the wave.

(P10.0) HEAT ZONES

These are found near stars and in some nebulae. They cover the entire map, or more limited areas if defined by a scenario.

(P10.1) EFFECTS: So long as the ship has at least one box on each shield, there is no effect. However, the ship receives one damage point during each Dogfight Resolution Interface (6C) (DRI, every 8th impulse) for each shield that is down. (If three shields are down, you receive three points of damage.) General reinforcement does not count. Armor provides no protection from heat and cannot be destroyed by heat damage. If the ship has armor, ignore it and roll normally on the DAC. Damage from heat zones can only "hit" phasers that could fire through the down shield that the heat entered from.

(P10.2) UNAFFECTED UNITS: Heat zones do not affect drones, plasma torpedoes, defense satellites, or mines.

(P10.3) SHUTTLES AND PFs receive damage only on the 12th and 24th impulse of each turn. Shuttles, which have no shields, receive this effect (1 point each occurrence) automatically; PFs receive it as ships, i.e., only if shields are down. An interceptor (K3.43) with a down shield would take 3 points of damage.

(**P10.4) TERRAIN:** Most terrain has little effect on a heat zone.
(**P10.41)** The effects of a heat zone cannot penetrate an atmosphere.
(**P10.42)** The effects of a heat zone are not blocked by webs, planets, asteroids, dust, or other terrain unless specified by those rules.
(**P10.43)** Units in stasis cannot be damaged (G16.41).

(**P10.5) WHITE DWARF:** Players can create the effect of a White Dwarf by combining a heat zone with a black hole. In such cases, reduce the ranges in the second column of the (P4.1) chart by 50%; round fractions (of the total) up.

(**P10.6) PA PANELS** are affected by a heat zone. They can be operated at reinforced levels if otherwise allowed.
(**P10.61)** PA panels cannot dissipate energy externally in this zone (D10.4124).
(**P10.62)** An Andromedan ship takes one internal damage point in each DRI for each bank/group of panels that is full.
(**P10.63)** An Andromedan ship in a heat zone accumulates one point of power (from the heat) in each group of panels during each DRI if the panels are not full.

(P11.0) SUNSPOT ACTIVITY

Virtually all stars are subject to sunspots, pools of slightly cooler material on the solar surface. During periods of high sunspot activity, certain effects take place in regions within 200 million kilometers of the star. The effects cover the entire map.

(**P11.1) COMMUNICATIONS** are disrupted.
(**P11.11)** Players cannot talk to each other if they are on different ships. (Fire control and guidance is unaffected.)
(**P11.12)** Control of seeking weapons cannot be transferred (F3.5), but can be released (F3.4).

(**P11.2) NON-FUNCTIONING EQUIPMENT:** Some equipment will not operate in a sunspot area.
(**P11.21)** Transporters cannot be used (except inside a single object, such as a ship or two docked ships).
(**P11.22)** Tractor beams will not function except to hold already docked units together. Webs will continue to function [including for pinwheels (C14.0)].
(**P11.23)** TR beams will function as weapons but not as tractors. (Displacement devices will function.)

(**P11.3) JAMMING** produced by the sunspots creates the effect of eight points of natural ECM for all units. No EW can be loaned, although self-protection can be used. The ECCM of seeking weapons and the units controlling them is defined by (D6.393) and (D6.34) and is not treated as lent EW.

(**P11.4) SOLAR FLARES** are often associated with sunspots. If this is specified as such by the scenario, treat the area as a radiation zone (P15.0). Shadows (P11.5) would exist in the radiation zone.

(**P11.5) SHADOWS** are created by planets, black holes, and moons. The star is designated as being in a certain direction. An area one-hex wide (or the width of larger planets) extends from all planets and moons in the direction away from the star. Ships in these areas are unaffected so long as the function (e.g., tractor, weapon fire) does not extend beyond the shadow. (While the shadow does, theoretically, get narrower as it gets farther from the planet, the shadow is still half the original width at 40 hexes beyond the planet and the effect can be ignored.)

Shadows are not created by webs, asteroids, rings, ships, bases, or other units and objects except as provided above.

(P12.0) NOVAS AND SUPERNOVAS

The end for many stars is as a supernova. The star has burned most of its hydrogen fuel and begins burning its helium. The result is a great increase in heat, and the star rapidly expands to several dozen (or even one hundred) times its original size.

The similar but smaller "nova" is caused when material falls into a star, causing it to become much brighter for a short period. The rules below provide for both versions. As only a fool fights in a burning house, scenarios involving supernovas will usually involve the rescue of persons or objects on planets near the nova [as in scenario (SM5.0)], rather than simple ship-to-ship combat. Of course, two ships could fight over who will do the rescuing.

(**P12.1) STAR LOCATION:** The star might be on the map as in (SM5.0) or located some distance away. In either event, the scenario will designate when the star will go nova.

(**P12.2) NOVA DIRECTION:** If the star is on the map, the nova will expand from that point. If not, the wave front of the nova will enter the map at a point and time, and move in a direction, specified in the scenario.

(**P12.3) WAVE FRONT:** The nova wave front will advance across the map at a speed of one hex per turn during the Involuntary Movement Stage (6A1) (moving on Impulse #16), as would a gravity wave (although the nova wave is slower). The wave front hexes and all hexes behind it are considered nova hexes. Mark the wave front with any convenient counters.

(**P12.4) EFFECT:** The effect of the nova is to immediately destroy all units which are in nova hexes (ignore the unit's explosion). Planets in nova hexes may or may not be destroyed, but the atmosphere, population, all organic life, all soil and water, and all installations and units on them will be destroyed. There is no protection from a nova except a stasis field, which lasts as long as the generating unit.

(**P12.5) OTHER EFFECTS:** The following additional rules are used to represent the other effects of a nova or supernova:

EFFECT	NOVA	SUPERNOVA
Radiation (P15)	20 hexes	40 hexes
Heat (P10)	10 hexes	20 hexes
Nebula (P6)	50 hexes	75 hexes
Pulsar (P5)	40 impulses	20 impulses
Asteroids (P3)	1 per impulse	2 per impulse

(**P12.51)** Treat the area within the specified distance from the nova wave front as a radiation, heat, and/or nebula zone. For example, a unit 12 hexes from a nova front would be in a radiation zone and a nebula, but not in a heat zone.
(**P12.52)** A pulsar burst is emitted on the impulse that the nova begins and is repeated thereafter at the specified interval. Range determination is made from the front of the nova wave, not from any single point.
(**P12.53)** The asteroid rules (P3.0) are used to reflect chunks of stellar matter cast off into space at high speed. Each impulse one (or two) new asteroid counter(s) (representing 7-hex asteroid clusters) are placed along the wave front. These then proceed to move at speed 20 directly away from the wave front (sideslipping left, right, left, etc.). (Asteroids move as the last unit to do so; new asteroids are created after movement.) Position along the wave front must be determined randomly. Use a deck of playing cards and assign each hex of the wave front to a card (temporarily placing aside any unused cards).

For example, if a supernova wave front started in the xx01 hex row (the top row of the map), you could use a deck with two jokers (which can be identified from each other) and with all face cards removed. The jokers represent #41 and #42; the suit of the other cards indicates units of ten and the pip value, units of one: Clubs = 1-10, Hearts = 11-20, Spades = 21-30, Diamonds = 31-40. Draw two cards (one for each asteroid). If one card was joker #1 and the other card was the 5 of spades, an asteroid would be placed in hex 4101

and the other in 2501. Obviously, if the wave front was in the xx05 row (Turn #5), the asteroids would have been placed in 4105 and 2505.

Asteroid damage is determined by (P3.2) within the normal rules (i.e., whenever a unit enters an asteroid hex, or when the asteroid enters the hex of the unit) with a speed of 20 or the unit's speed (whichever is greater).

(P13.0) DUST CLOUDS

Dust, as opposed to the molecular hydrogen found in nebulas, consists of finite particles of solid matter. Dust clouds cover the entire map. The cumulative effect of dust clouds is similar to asteroids.

(P13.1) EFFECT: Dust clouds cause damage points based on the unit's speed, as shown on the chart below:

IMPULSE	SPEEDS THAT TAKE DAMAGE		
5	13-18	23-25	29+
10	19-22	26+	
15	9-12	23+	
20	19+		
25	13-18	26+	
30	19+		

(P13.2) DAMAGE: During impulses divisible by five, all units at speeds listed in the right portion of the chart for that impulse take one point of damage on the shield facing in the direction that they are moving. (Units without shields take the damage directly, as usual.) Use the procedure in (P3.21) to determine the facing shield.

For example, a ship moving at Speed 20 would take one point of damage on Impulses #10, #20, and #30.

Units performing Erratic Maneuvers (C10.45) take the one point of damage on all six listed impulses. For ESGs, see (G23.654).

(P13.3) NON-SHIP UNITS: Dust clouds will damage drones, plasma torpedoes (as phaser damage points), PFs, and shuttles; subtract 10 from their speed when calculating damage. (This subtraction is mandatory; players cannot voluntarily forgo it.)

(P13.4) ELECTRONIC WARFARE: Dust clouds produce one point of "natural source" ECM for each unit in them. This is irrespective of the number of hexes between units (i.e., one point total, not one per hex). This applies to units inside firing out, outside firing in, and inside firing at other units inside the dust cloud.

(P13.5) INTENSE DUST CLOUDS: For more intense dust clouds, simply double the damage on each impulse in which damage is specified by the table in (P13.1) and the electronic warfare (P13.4).

(P13.6) CLOAKED UNITS: See (G13.48).

(P13.7) TERRAIN: Dust clouds do not extend into atmosphere hexes.

(P14.0) ION STORMS

These are the most common interstellar disturbances although their effects are more nuisance than danger. Ion storms combine the effects of many other conditions noted here; they cover the entire map. Alternately, a storm could enter as a gravity wave, with all hexes behind it considered a storm area.

(P14.1) RADIATION: Ion storms are treated as radiation zones (P15.0).

(P14.2) GRAVITY WAVES: Weak (10 point) gravity waves (P9.0) are frequently evident in ion storms. Assume that a series of gravity waves 32 hexes apart are approaching from a direction randomly determined before the scenario begins.

(P14.3) SUNSPOTS: On each turn, there is a chance that the storm will cause various effects similar to sunspots (P11.0). After energy allocation, roll one die and consult the following table:

DIE ROLL	EFFECT
1	Use (P11.1)
2	Use (P11.2)
3	Use (P11.3)
4-6	Use all three.

The effect of any given die roll ends at the end of that turn, and a new roll is made.

(P15.0) RADIATION ZONE

This type of zone will be found near some types of stars and some other areas. The entire map might be treated as a radiation zone or only the area within a set number of hexes of a specific planet or asteroid.

The WYN radiation zone is a completely different and unrelated effect; see (P7.0).

(P15.1) EFFECT: So long as the ship has at least one box on each shield, there is no effect. (General reinforcement does not count.) If there is at least one functioning PA panel (D10.0) in each bank and no bank is full, this has the same protection as shields.
(P15.11) One crew unit dies on each Dogfight Resolution Interface (6C) (DRI, every 8th impulse) if one or more shields are down.
(P15.12) Radiation can kill the last unit on the ship; the ship would then become a contaminated derelict. It could be captured by towing it out of the radiation zone (and then to a starbase for decontamination).
(P15.13) All of the legendary officers on the ship, together, constitute the "final crew unit" after all of the crew units listed on the Master Ship Chart are gone.
(P15.14) In some scenarios, the source of the radiation may be a specific point. In this case, the down shield (or panel) must be facing the source of the radiation or there is no effect. See (D3.43).

(P15.2) UNAFFECTED UNITS: Radiation zones do not affect drones, plasma torpedoes, super-computers (G11.0), or mines.

(P15.3) SHUTTLES, FIGHTERS AND PFs are unaffected by radiation zones. Their much smaller crew areas can be shielded.

(P15.4) TERRAIN: Most terrain has no effect on radiation zones and is not affected by them.
(P15.41) Radiation cannot penetrate an atmosphere.
(P15.42) Radiation effects ignore planets, webs, asteroids, and other terrain. The terrain (or web) is not damaged, and units on/in/behind such terrain are not protected.

(P15.5) NEUTRON STAR: Players can create the effect of a neutron star. Use a counter to represent the star, which is the source of a radiation zone extending 20 hexes in all directions. Units within this zone are pulled one hex toward the star on Impulse #16 of each turn.

(P15.6) OTHER EFFECTS: The static on the sensor channels reduces the maximum range for weapons, active fire control, tactical intelligence, disengagement by distance, etc. to 25 hexes. This range is not extended by special sensors or reduced for low-powered fire control. See (G24.1854) for scouts.

(P15.7) PA PANELS cannot dissipate energy in this zone (D10.4124). One crew unit dies on each DRI (6C) if any panel bank is full or is down (destroyed, inactive, etc.). If the panels are not full, one point of energy is absorbed into each panel group on each DRI; this energy is treated as normal energy stored in the panels (the panels will convert the radiation to a safer form which they can absorb).

(P16.0) COMETS

Comets are masses of rock, dirt, and ice that travel in extended orbit around many stars. Comets are sublight and do not move within game terms. Comets will be used in *Star Fleet Battles* only if specified by the scenario rules or if the players have agreed to use this terrain type.

(P16.1) COMET NUCLEUS

A comet consists of a nucleus and a tail of particles extending directly out from the nucleus in a straight line. Scenario rules will specify a hex of placement for the nucleus and a direction from the nucleus for the tail.

(P16.11) NUCLEUS: The nucleus is a single large asteroid within a hex of standard asteroids (P3.0). The nucleus is moving, but its movement is too slow to move even a single hex during the course of a scenario.
(P16.111) Units moving through the hex of the nucleus roll for asteroid damage as if it was a normal hex of asteroids (P3.2).
(P16.112) The nucleus of a comet cannot be displaced (G18.0), tractored (G7.0), or used as a web anchor point [(G10.0) and (E12.0)].
(P16.113) Units may dock (C13.0) to a nucleus. Note that a unit may use (D20.0) Hidden Initial Placement in a Nucleus hex, and while nominally moving under impulse power, it will actually be coasting along with the core of the comet if not docked to one of its component elements.

(P16.12) DESTRUCTION: A comet may be destroyed by weapons fire or seeking weapon damage (P2.312). This may be a defined objective in a scenario where the comet might be on a collision course with a planet. As a default value, assume 400 points of damage is needed to destroy a large comet.

In game terms, the destruction of the nucleus would have no immediate effect (the comet would dissipate over time), but small ground bases on some of the nucleus asteroids might be eliminated.

(P16.2) COMET TAIL

Once the nucleus of the comet is placed, a row of hexes extending directly from it in one direction are "tail" hexes. In actual terms, the tail could be at any relation to the direction that the comet itself is moving (since the tail must point away from the star the comet is orbiting), but as the nucleus is not moving and the star is many thousands of maps away, the direction for the tail can be selected more or less randomly.

(P16.21) LENGTH OF TAIL: The length of the tail varies with the distance to the star, but will always start in the nucleus hex and point away from the star (roll a die for direction if not specified). In deep space the length is equal to the total of three dice plus ten.
(P16.211) If at a distance from a G-class star approximately that of the orbit of a habitable planet, the tail would be several hundred hexes long, effectively infinite. Nearer the star, it could be up to 2,000 hexes long and could include the hexes adjacent to the nucleus hex in all directions.
(P16.212) Length can be specified by the scenario.

(P16.22) WIDTH OF TAIL: The tail is one hex wide (unless a special scenario rule provides for a wider tail).

(P16.3) EFFECT OF COMET

The tail (including the nucleus hex) is treated as a Dust Cloud (P13.0).

(P16.31) DAMAGE: Any unit which enters one or more tail hexes during a turn resolves damage under (P13.1) as if it entered a dust cloud hex.
(P16.311) One die roll for damage is resolved during the Damage During Movement Stage (6A3) of *every* impulse of the turn in which the ship enters a tail hex.
(P16.312) If the only hex of tail that a seeking weapon enters is the hex that its target is in, the normal Impulse Procedure takes precedence and the seeking weapon will strike its target and no die roll for dust damage to the weapon will be made.
(P16.313) Cloaked units that move in a tail hex are exposed and may be locked onto.

(P16.32) ELECTRONIC WARFARE: Any fire directed at a unit in a tail hex, or any fire that passes through any tail hex, is penalized by one point of natural ECM (D6.3143). This is the maximum ECM shift and is not increased if there is more than one tail hex intervening. The firing ship is penalized by one point of ECM if it is in a tail hex, even if its fire does not go through any intervening tail hexes and its target is not in a tail hex.

(P16.33) OTHER: Various other options might be used with a comet:
(P16.331) Scenario rules may specify that the tail is denser than usual. In this case, simply double the damage under (P16.31) and the ECM under (P16.32).
(P16.332) Some scenarios may specify that the tail is denser nearer the nucleus and more dispersed behind it. This might provide that the first five (or more) hexes of tail behind the nucleus are treated as denser than usual, while the remainder are treated as normal density.
(P16.333) The comet might be combined with other terrain types, sharing a map with a Pulsar (P5.0) (the direction away from the pulsar will define the direction for the tail) or a Black hole (P4.0) (in this case the tail will be towards the black hole). Other combinations are possible, such as having a comet moving through an asteroid field (although it won't actually move in game terms).

(P17.0) TOURNAMENT BARRIER

(P17.1) MAP

The map is fixed; it does not float. Any partial hexes with hex numbers are playable (i.e., can be occupied by a unit). Any partial hexes without hex numbers are not playable (i.e., are part of the barrier). Note that fire along barrier edge is not blocked (i.e., fire from 0101 to 0301 is possible).

(P17.2) BARRIER

Any ship trying to move off the edge will take five damage points on the shield facing the barrier (i.e., facing the imaginary hex it tried to enter) and come to a complete stop at the end of Stage 6A3, losing all previously plotted movement including Tactical Maneuvers, Erratic Maneuvers (which are not used in the tournament), tumbling, or an HET. A unit with a plot of Speed Zero and Tactical Maneuvers that is pushed into the tournament barrier loses the Tactical Maneuvers because all plotted movement is lost.

This deceleration will allow the ship to launch a wild weasel on the same impulse (or a subsequent impulse), assuming all other conditions have been met. A ship which has stopped in this manner is eligible to use reserve power to accelerate on the next impulse or any later impulse within the limits of (C12.0).

Damage that penetrates a facing shield (or a shield that is already down) is scored as internal damage. Andromedan ships take the damage on facing PA panels. Any penetration of the panels will be scored as internal damage, with the shield arc facing that hit the wall determining phaser-directional damage (D4.321).

A ship qualified to make a zero energy turn (C5.13) does not lose this ability if it strikes the barrier since ZETs are not "plotted movement".

Note that impact with the tournament barrier takes precedence, and a ship in the Post-Deceleration Period (C8.4) is released from those restrictions if it is pushed into the tournament barrier.

A ship rotated (G7.7) into the tournament barrier during the Initial Activity Phase (5) is under all of the restrictions of this rule and does take the five points of damage from such an impact.

The damage is scored and the ship/shuttle is reduced to Speed Zero as a result of the impact no matter what means resulted in its striking the barrier.

(P17.21) SEEKING WEAPONS: Any seeking weapon or shuttle which tries to move off the map edge will take five points of damage and will not move on that impulse, but will not stop and will count that attempted movement against its Turn Mode. Damage from barrier impact is counted as phaser damage points (FP1.61), not lost strength points, by plasma torpedoes.

(P17.22) TACTICAL MANEUVERS: The ship cannot perform Tactical Maneuvers on the impulse it is stopped by hitting the tournament barrier, but can perform them, or a mid-turn speed change (C12.24), or even an High Energy Turn, with reserve power on the immediately following impulse, or any subsequent impulse of the turn. Note that hitting the wall is not the same thing as Emergency Deceleration (C8.0) or mid-turn speed changes down to zero (C12.0); it is a separate rule and cannot be plotted (C12.12).

(P17.221) A ship would not be able to use reserve power to move in reverse of its previous direction unless it risks a breakdown due to the constraints of (C12.37) if this is done within eight impulses.

(P17.222) Hitting the barrier counts as emergency decel for purposes of a WW, but the 16-impulse delay in (C8.4) does not apply, and the ship can resume normal operations at the start of the next turn.

(P17.23) ESGs interact with the barrier as if it were a web (G23.85). Note that it is impossible for a unit to be "in" a barrier hex as the barrier is impermeable and is effectively just off the edge of the map.

(P17.24) FACING: Relative facing of units in hexes adjacent to the barrier is judged by the following rules:

(P17.241) If two units enter a hex adjacent to the barrier, their relative facings are determined by (D3.42) as normal.

(P17.242) If a unit is already present in a hex adjacent to the barrier, whether it is stopped as a result of striking the barrier or not, relative facing between it and any new units entering that hex are determined by (D3.42).

(P17.243) If two units in the same hex are adjacent to the barrier, even if one is already stopped as a result of striking the barrier, and one moves to strike the barrier itself, it is judged to have PASSED the first unit and be on its opposite side, i.e., between it and the barrier, for purposes of (D3.42).

(P17.244) If two units are in a hex and both try to leave the hex by attempting to exit through barrier hex sides, their relative facings will be judged based on the hex sides they attempted to leave the hex by. If both units attempt to exit through the same barrier hex side, their relative facings will be determined by the Order of Precedence (C1.313). Note that this DOES mean that the faster unit will be BEHIND the slower unit (or in front of it if the slower unit was moving in reverse). Note that turns or sideslips could result in shield facings other than the #1 or #4 being the respective facing shield.

(P17.245) If two units in a given edge hex attempt to exit through the same barrier hex side and move at exactly the same point in the Order of Precedence [after all tie breakers have been exhausted, e.g., same speed, same Turn Mode category] and both units have recorded the same exit direction, then the relative facing will be unchanged by their collision with the barrier.

(P17.3) TRACTORS

If a tractored unit is forced into the barrier, it takes the damage but the tractor link is broken; the tractoring ship then completes its movement. For example, ship A in 4105 tractors ship B in 4204 on Impulse #15. On Impulse #15 ship A moves in direction C. The result of Ship A's movement is that ship B hits the barrier, but ship A will still move into hex 4205. The tractor link would also be broken if the tractoring ship rotated (G7.7) the tractored ship into the tournament barrier during the Initial Activity Phase (5).

(P17.31) TRACTORS which are generated (aka operated) by a ship that impacts on the barrier are NOT broken. If ship A has tractored ship B, and the movement of ship B forced ship A into the barrier (or ship A attempted to move into the barrier), neither ship moves, ship A takes damage, the tractor is unbroken, and the situation may repeat itself if ship B moves. Movement by the tractored unit which results in an impact of the barrier, even if the unit was left with no choice but to hit the barrier as a result of movement by the tractoring unit, will not break the tractor link. If the tractor link is broken as a result of barrier impact, it is not considered a voluntary release (G7.332). If the tractoring ship forces the tractored ship into the barrier, the tractor releases as part of that movement and the tractoring ship will complete the movement it was executing that forced the tractored ship into the barrier.

EXAMPLE: Ship A in hex 3702 heading B has tractored Ship B hex 3701. Ship A attempts to move into hex 3801, the result of this is that Ship B hits the barrier in direction B of hex 3701, breaking the tractor and ship A completes its movement in hex 3801, heading A. (Ship B's heading is irrelevant to this example.)

(P17.32) A SEEKING WEAPON released as a result of a collision with the tournament barrier cannot move on the impulse in which it was released by the collision (P17.21).

(P17.33) SIMULTANEOUS IMPACT: If both ships move into the wall on the same impulse due to the movement of the tractoring ship the tractor is dropped and both ships stop and take damage (P17.2). If both ships move into the wall on the same impulse due to the movement of the tractored ship the tractor is not dropped, but both ships stop and take damage (P17.2). If both ships move into the wall and both ships moved on the same impulse (G7.36-C2), the tractor is dropped and both ships stop and take damage (P17.2).

(P17.4) DISPLACEMENT

If a unit is displaced off the map, it is put in the last edge hex. It does not stop or take damage. Note that while displacement into the barrier will not result in collision with it (P17.2), a displaced unit's subsequent movement after displacement can result in collision with the barrier.

END OF SECTION (P0.0)

(R0.0) SHIPS AND OTHER UNITS

STAR FLEET BATTLES includes literally hundreds of ships, and more are being added continually through modules and *Captain's Logs*. *Basic Set* includes several dozen ships.

(R0.1) RULE NUMBERING

This rules section is numbered somewhat differently from the other sections. Each empire is assigned a number (for example, the Federation is "R2"), and each ship is assigned a consecutive number within that series. Note that (R2.13) is not the third minor point concerning (R2.1) as it would be in other rules sections, but is the thirteenth Federation ship. The consecutive numbering of the starships within each empire is, with some exceptions, the order in which the ship was introduced to the game, not the order of size or importance.

In cases where it is necessary to subdivide a rule on a given ship class, letters are used. Thus, (R1.1) deals with starbases, and rules (R1.1A) and (R1.1B) are subdivisions of that rule.

Ships are numbered consecutively within the section.

Fleet refits are assigned numbers starting with (R#.R1).

Fighters are assigned numbers starting with (R#.F1).

Fast patrol ships are assigned numbers starting with (R#.PF1)

(R0.2) COMMANDER'S SSD SHEETS

The SSD sheets provided with all *Captain's Edition* products are of the type known as "Commander's SSDs" which include all relevant charts. This will greatly reduce the need to reference the rulebook when playing. Also, each of these special SSD sheets includes check off boxes for crew units, boarding parties, ammunition, etc.

On SSDs, fighter boxes marked = are drone, plasma-D, or fusion-armed fighters. Fighter boxes marked + are disruptor, hellbore, or photon-armed fighters. The "BD" Boxes are used to record if the ship has broken down one or more times.

(R0.3) DEFAULT VALUES

Unless specifically stated otherwise in the unit description:

1. Accelerates by ten or to double its current speed, whichever is greater.
2. Has no drone or plasma-D storage for use by fighters.
3. Has one set of reloads for its drone racks (if it has drone racks).
4. Can launch one drone per drone rack per turn (if it has drone racks).
5. Can control a number of seeking weapons equal to its sensor rating if it is armed with seeking weapons and half of the sensor rating if not so armed (F3.211).

(R0.4) DESCRIPTION OF SHIP CLASSES

Ships in this game come in a variety of classes that are, to a large extent, standardized throughout all empires. A general description of these classes and their assigned role is given here.

The standard ship of all fleets is the HEAVY CRUISER (or CA). This ship is large and powerful enough for virtually every mission except fighting a dreadnought. These ships are used for routine patrols of the frontier and interior. They are large enough to have a full range of equipment, yet small enough to be operated efficiently. Some heavy cruisers are fitted with increased weapons and command facilities and are called COMMAND CRUISERS. These are used to command fleets and independent squadrons.

The smaller and less powerful LIGHT CRUISERS (CL) conduct much the same missions as heavy cruisers but are less capable. The Klingons did not build light cruisers, but continued construction of the obsolete D6 class for this purpose. The Federation refitted a class of old sublight heavy cruisers with warp engines and used them as CLs. During the General War, cheaper WAR CRUISERS (NCL, D5, SP, HDD, CW, BR, CM, etc.) appeared.

The heavier DREADNOUGHTS are designed as extremely large cruisers with increased weapons and defenses.

The smaller ships include, in decreasing order of size, DESTROYERS, FRIGATES, and ESCORTS. These are used on missions where a cruiser is not required or available and to support cruisers in a combat situation. Because of their cheaper construction, many are built. A squadron of three cruisers facing a squadron of one cruiser, two frigates, and two escorts (which cost almost the same to build) would be outgunned by 10-20%, to say nothing of being outmaneuvered by the more flexible force. The smaller units, however, would be destroyed faster in combat. Also, command limits might make it impossible to use the available BPV with small units.

NOTE: Section (R0.5) Miniatures is in a future product.

(R0.6) DEFINITIONS

The term "unit" includes ships, bases, shuttles, fast patrol ships, and seeking weapons.

The term "ship" refers to all ships in the game, including (with certain reservations) bases, pods, and PFs. Freighters and naval auxiliaries are ships, but have some additional limitations.

"Bases" are governed by the same rules as ships and are (technically) considered to be a special sub-classification of ships (those that don't move). The few exceptions, where rules for ships do not apply to bases, are obvious or clearly marked.

"Fast patrol ships," included in *Module K* and *Advanced Missions* and variously called fast patrol ships, gunboats, and PFs, are a special sub-classification of ships. Interceptors (K3.0) are treated as PFs except as provided by the rules.

Shuttles are never included in the rules for ships and include both administrative (or utility) shuttles and fighters.

The term "module" is vastly overworked in *SFB*. It can mean a new product (*Module J),* a Klingon fire control system [UIM in rule (D6.5)], a component of a modular ship (e.g., SparrowHawk), a small pod-like item attached to a base to provide extra systems [properly a base augmentation module such as (R1.4), (R1.16), (R1.17), (R1.32)], and the large "bubbles" on starbases which can dock ships internally and which have a portion of the base's weapons and systems (more properly starbase docking modules). The use should be clear from the context in each case.

All ships are assigned a "size class" to reflect their relative size. There are eight assigned size classes, which are (in general):

Size class 0 = some very large monsters
Size class 1 = starbases
Size class 2 = dreadnoughts and other larger ships
Size class 3 = cruisers (heavy, light, etc.)
Size class 4 = destroyers, frigates, escorts, etc.
Size class 5 = PFs, interceptors, small/medium ground bases
Size class 6 = shuttle, fighter, heavy fighter, bomber, drogue.
Size class 7 = drones, plasma torps, DefSats, and mines.

(R0.7) CARRIER DATA CHART

All carriers are provided with a Carrier Data Chart, which is generally in this form:

YEAR	ESCORTS	FIGHTERS
Y170-72	CL, EFF	12xAAS
Y173-74	MEC, EFF	12xHAAS
Y173-74	MEC, DWE	12xHAAS

The year column indicates the time when this combination of escorts and fighters was in use. The escort column lists the ships which almost always appear with the carrier. The fighter column defines the fighter group. EW fighters are not noted here; they have their own rules. Generally, one of the twelve fighters is in fact an EW fighter. C-refit fighters (R1.F8) are not listed as their deployment was not universal; see the rule in *Module J*.

A carrier cannot be purchased without buying its escorts, and the escorts cannot be purchased alone (excepting a very few standard warships, such as the Kzinti CL, which served as carrier escorts during the earliest carrier deployments). A player can always select an earlier type of escorts or fighters and can replace the larger escorts with smaller ones from the same or an earlier period. As the game has grown, more

escorts and new fighter types have been added, and updated carrier data charts for all carriers through *Module 12* were published in *Module G3A* in 2010.

(R0.8) HOW TO READ AN SSD

Note the SSD below, which is for the Romulan K5R. Note: The Romulan K5R shown here is a fully updated SSD, older SSD books will not include all of the upgrades.

1. CREW UNITS: One box for each unit (including boarding parties and deck crews). These are checked off for casualties. The ✱ symbol indicates the minimum crew (G9.4). Just below this is the track for boarding parties, which works in the same manner. The SSDs of large bases include crew tracks that are larger than the crew assigned to the base in Master Ship Chart/Annex #3. This is to track crew units added by base augmentation modules. Mark out any crew units not used before beginning a scenario.

2. TRANSPORTER BOMBS: There is one box for each bomb and for each dummy bomb. The number of boxes is the maximum number the ship can carry. See (M3.0).

3. PROBES: This track provides one box for each probe in the probe launcher. These are checked off as the probes are used.

4. SHUTTLECRAFT: This table is divided into three columns. The first is used to record the counter number. The second is used to record damage. The third column is used to record any special information, such as the loading of a shuttle as a suicide shuttle. Some ships have more than one shuttle bay and have a heavy black line to separate the lines on the chart for the shuttles in each bay. Even if the shuttle bay is shown as two separate boxes (as shown on the SSD of the K5R included here), the ship has only one shuttle bay unless noted otherwise. Many shuttle bays will include one or more bars underneath the shuttle tracks describing various additional capabilities of the shuttle bay. Advanced shuttles were added in *Module J2*, and the table on the sample K5R has additional damage boxes marked "A" to allow the use of the advanced shuttles, these boxes should otherwise be ignored.

5. SHIP DATA TABLE: This box includes several items.

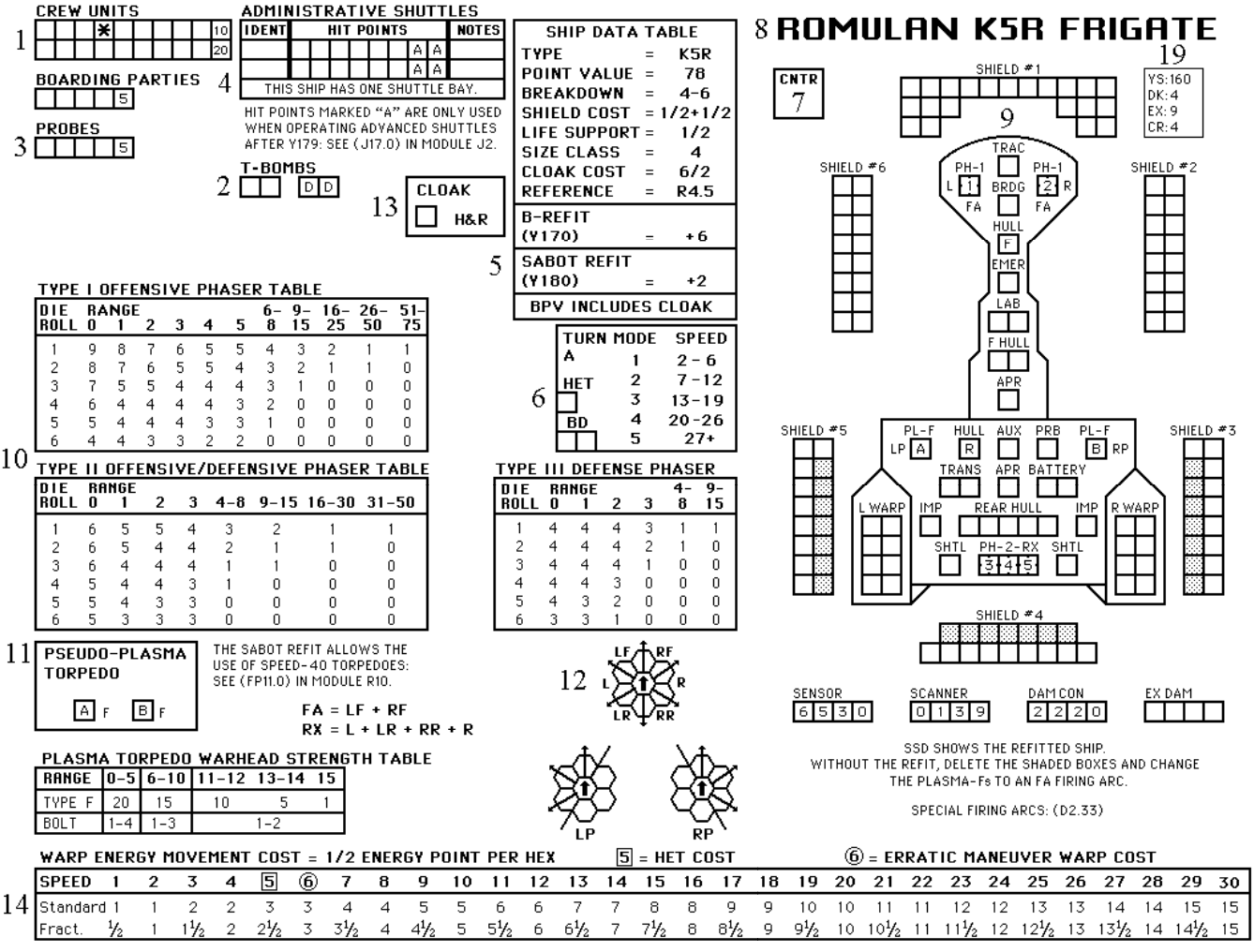
- TYPE: The class type listed on the Master Ship Chart.
- POINT VALUE: The BPV; see (S2.1).
- BREAKDOWN: The rating for use in (C6.5).
- SHIELD COST: The cost of operating the shields; (D3.3).
- LIFE SUPPORT: The energy cost. See (B3.3)
- SIZE CLASS: The size of the ship; see (R0.6).
- CLOAK COST: Only on ships which can have cloaks. This energy cost with (and without) the warp engines; see (G13.2). Those ships with optional cloaks (i.e., Orions) will have the refit cost on their SSD.
- REFERENCE: The number that the ship is listed under in the R-section for the owning empire.
- REFITS: The additional cost of certain improvements.
- INFORMATION: Some ships have an information bar, i.e., all ships that have cloaking devices will generally, as in the case of the K5R, have a bar stating that he cloak is included in its BPV.

6. TURN MODE: This table shows how many hexes the ship must move forward before it can turn; see (C3.0). The Turn Mode category is shown by a letter in the upper left. In the mid-left is a box to check off when the ship uses its High Energy Turn bonus; see (C6.52). If the ship breaks down (C6.51), check off one of the boxes at the lower left. Two boxes are provided. (Few ships could survive a third breakdown, but if yours does, just make an extra mark). Tugs may have more than one chart for different pod configurations.

7. COUNTER IDENTIFICATION BOX (CNTR): Record here what counter you are using on the map for this ship.

8. SHIP TITLE: The empire and type class of the ship.

9. SHIP SYSTEM DISPLAY: The actual SSD. Note that shaded boxes indicate a refit.



10. WEAPON TABLES: Those needed will be provided.

11. PSEUDO-PLASMA CHECK-OFF BOXES: These are marked when each PPT (FP6.0) is used or the launcher is destroyed.

12. FIRING ARCS: A standard six-sector firing arc template will be provided. Others may be provided for special cases. Any combined arcs used will be noted. See (D2.0) for more data.

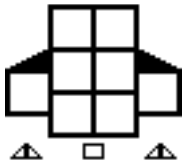
13. HIT-AND-RUN BOX: Those ships with non-SSD items that can be destroyed in a hit-and-run raid (D7.8) will be noted.

14. MOVEMENT COST CHART: This shows the warp energy cost of moving the ship (C2.0) at various speeds. As High Energy Turns (C6.0) cost the equivalent of five hexes of movement, and the cost of Erratic Maneuvers (C10.0) is equivalent to six hexes of movement (three hexes for nimble ships), these speeds are marked for quick calculations. Tugs may have more than one chart for different pod configurations.

15. DRONE RACKS: The K5R has no drone racks. Each box is used to record the type of drone in that space; the small boxes record the use of reloads. Mark out each box as it is used.

16. ANTI-DRONE tracks are simple check-off boxes for the loaded and reload rounds. Types need not be listed as all ADDs are of the same type, but if type-VI drones are used, this can be marked. The K5R does not have anti-drones.

17. FIGHTERS: The K5R has no fighters. See the diagram below right. As you can see, this is not a formal SSD but is simply a collection of damage point check-off boxes arranged in the shape of a fighter. The various small boxes around it indicate its weapons, chaff, etc. Most carriers will have the most advanced fighters available to that empire on their SSDs. Consult Annex #4 and mark off the appropriate number of boxes and weapons to adjust the fighter diagrams to the appropriate fighter.



18. FIGHTER DATA TABLE: Ships which normaly operate fighters will have a table for the most advanced fighter operated by that empire for quick set up. If earlier fighters are to be used, this table should be ignored and the data for the fighters appropriate to the year of the scenairo from Annex #4 should be used. It is not found on all SSDs as it is a new addition. As older SSDs are updated for new printings this table will be added as appropriate.

Z-YC FIGHTERS
2xPh-3 -FA
DFR = 4
CRIPPLED = 8
SPEED = 15
BPV = 12

19. CRAWFORD TABLE: This table duplicates information from the Master Ship Chart/Annex #3 listed in the order of Year in Service (YS), Docking Points (DK), Explosion Strength (EX), and Command Rating (CR) for ease of reference. It is not found on all SSDs as it is a new addition. As older SSDs are updated for new printings this table will be added.

END OF SECTION (R0.0)

THIS PAGE BLANK

(S0.0) SCENARIOS

(S1.0) GENERAL RULES

The game *STAR FLEET BATTLES* includes several scenarios, each representing a battle situation in which the players will use their ships, weapons, and skills to defeat an opponent. The term "scenarios" is synonymous with "situations" and "battles" in this sense. There are several types of scenarios, as will be explained below.

(S1.1) SCENARIO ORGANIZATION

Scenarios, for the most part, are presented in a set format. (This format is also used for scenarios presented in *Advanced Missions*, the modules, and other places.) This format is explained below.

(S★.0) SCENARIO TITLE: Each scenario has a title that identifies the battle it portrays. Included here is background information about the battle, often describing the situation and what you are trying to accomplish. This section will also include the scenario author and (in a historical scenario) the date. There will also be a graphic illustrating the ships used in the scenario, allowing you to quickly find a scenario with the number and type of ships you wish to use.

(S★.1) NUMBER OF PLAYERS: Most scenarios are designed for two players, but some are designed for one and others for three or more. In this section, each player is identified; this identification is then used throughout the scenario.

(S★.2) INITIAL SET UP: This section will give the starting position (or area and/or time of arrival) for all units (and anything else, such as a planet) involved in the scenario. Included will be not only the location but also the speed and heading (the direction it is moving) and the status of each ship's weapons (S4.1).

In all cases, the speed given is the speed that the ship was using during a hypothetical previous turn for purposes of acceleration; see (S1.42). The maximum possible speed of the ship may not be exceeded. If a scenario calls for a ship (perhaps as a substitution under a variant) to have been moving at a speed faster than it can move, players should adjust the stated speed downward to this limit. If a faster ship is substituted, retain the original speed.

Ships placed on the map at the start of the scenario, or which enter the map during the scenario, are assumed to have fulfilled their turn and sideslip modes provided it is possible for them to have done so. Exception: Units at a speed of zero have not fulfilled any turn or sideslip mode (C3.43). Additional exceptions may be stated in various scenarios.

Weapons status (S4.0) defines how the weapons of the various ships may be armed at the start of the scenario. Note that weapons status applies only to the condition of the weapons at the start of the scenario (or when new units appear); it does not restrict what you do with the weapons during the scenario.

(S★.3) LENGTH OF SCENARIO: In most cases, the scenario ends when one player's forces have either been destroyed or forced to leave. This is not always the case; if it is not, directions will be given.

(S★.4) SPECIAL RULES: Many scenarios include special rules that reflect the tactical situation.

(S★.5) VICTORY CONDITIONS: This section will describe how to determine who won the scenario. Standard victory conditions (S2.20) will be used unless superseded by specific instructions in the scenario.

(S★.6) ORDER OF BATTLE VARIATIONS: In many cases the scenario can be played many times with different forces. How a Klingon ship, with its distinctive weapons arrangements, handles a situation or opponent may be substantially different from how a Federation ship handles it. Reading the variations sections of several scenarios will give you ideas that can be applied to others.

(S★.7) BALANCE: In some scenarios, suggestions on how to balance the scenario between players of unequal skill are given. Reading the balance sections of several scenarios will give you ideas that can be applied to others.

(S★.8) TACTICS: If the situation is unusual, advice on tactics may be provided. Note that this is only a guide for the first time you play the scenario; you will develop your own tactics to suit your own style of play.

(S★.9) NOTES: Depending on the scenario, notes may be given to provide the insight of players or the designer.

HISTORICAL OUTCOME: The outcome of a historical scenario (SH0.0), usually listing any lost ships or significant events.

INTEGRATION WITH FUTURE VOLUMES: *BASIC SET* is the first element of the *STAR FLEET BATTLES* game system. Other products and modules will add new ships, weapons, rules, empires, and scenarios to the game. Should you choose to acquire an expansion module, you will doubtless want to include many of the newly provided ships in scenarios you are familiar with. Information is included in many scenarios of this first volume as a guide to integrating the future volumes into your gaming.

Note that players should feel free to design their own scenarios or to modify the scenarios included here to suit their own tastes.

(S1.2) SCENARIO TYPES

The scenario section is one of the exceptions to the alpha-numeric rules numbering system. The "S" superscript is used to designate general rules pertaining to all scenarios. The scenarios themselves, however, are divided into four categories, each defined by a different two-letter superscript and numbered independently. Should a future expansion volume create a new category, a unique two-letter superscript will be assigned to it.

GENERAL Scenarios are those that represent a type of battle that occurred frequently during the universe history. These scenarios do not represent a single battle, but many battles happened along the lines shown. The superscript for these scenarios is "SG."

HISTORICAL Scenarios represent specific battles that occurred between specific people and ships on a specific date during the universe history. Historical scenarios can be modified into general scenarios by substituting non-historical participants. For example, players might play a historical battle between the Klingons and Federation, but substitute the Kzintis and Romulans to determine how their technology would have functioned in that environment. The superscript for historical scenarios is "SH."

MONSTER Scenarios are those in which one of the participants is not a starship, but a creature of some type that lives in space. (Some monsters in other products are huge robot starships, not living beings.) The superscript is "SM" for monster scenarios. Many monster scenarios can be played solitaire (i.e., by one player). Many monsters use rules in (S6.0).

CAPTAIN'S LOG includes many scenarios (more than 100 in the first seven issues). These are designated "SL."

NEXUS MAGAZINE, although no longer published (in 1990), included a number of scenarios designated SN. Scenarios from out of print issues of Nexus and *Captain's Log* may be reformatted and published in new products under the same or different scenario numbers.

PLAYTEST SCENARIOS are distributed by various informal means and are designated SP. Upon publication, these numbers are changed to the appropriate series above.

CAMPAIGNS in section (U0.0) are collections of related scenarios. Mini-campaigns (T0.0) are shorter campaigns, often without time for repairs between scenarios.

(S1.3) SPECIAL RULES FOR *BASIC SET*

Basic Set does not include many advanced and special items which are introduced in *Advanced Missions* and the various modules. In order to keep the scenarios in *Basic Set* free of extraneous material, and yet to allow you to use these scenarios when (or if) you add more advanced products to your personal game system, this section provides general information on how to integrate these advanced rules into your existing scenarios.

Generally speaking, section (S1.3) is used with items found in *Advanced Missions* and *Modules J* and *K*. You should ignore this section (S1.3) unless you have one or more of those products. You can, of course, read it to see if you would be interested in adding one of those products.

(SH.42) SHUTTLES AND PFs: If you use MRS (multi-role shuttles), fighters (presumably from a carrier) or PFs (a type of small "gunboat" that is the smallest "ship" in the game), the following information will be necessary.

The presence of warp booster packs (J5.0) on any fighters, bombers, PFs, or Interceptors (to increase their speed) will depend on the year in which the scenario is set. They were introduced for fighters in Y180; PFs always have them, and Interceptors have them unless specified otherwise. *Module J2* provides Megapacks for fighters and bombers which improve speed and add weapons.

(SH.421) Multi-role shuttles (J8.0) are available only to certain ships. Players may purchase these shuttles [up to the limits in (J8.5)] under (SH.431).

(SH.422) If using EW fighters (R1.F7) from *Module J*, any carrier with eight or more fighters can replace one standard fighter [per squadron (J4.46)] with an EW fighter. All carrier SSDs show this EW fighter when appropriate. If not using EW fighters, replace the EW fighters with the most common type on that carrier.

(SH.423) Players with access to *Module K* might choose to add PFs to the scenario within those rules.

(SH.43) COMMANDER'S OPTION ITEMS: The data given here is the complete version used with *Advanced Missions* (and other products). A simpler version with only *Basic Set* technology is shown in the scenarios in this book.

(SH.431) Ships can purchase additional or special equipment as Commander's Option Items (e.g., T-bombs, extra marines, MRS shuttles, special drones, etc.) up to 20% of its Combat BPV. See (S3.2) for details and exceptions. Each ship can purchase special drones up to the historical percentages (FD10.6) as part of the Commander's Option Items. Note that (S3.2) allows drone ships extra points for this purpose. Some items may not be available in all time periods and cannot be purchased if the scenario date is before the item's introduction date.

(SH.432) The speed of the drones will depend on the year in which the scenario is set. See (FD2.223), (FD10.6), and (FD2.224). The cost of drone speed upgrades is not included in the % limit in (SH.431).

(SH433) Whether or not Prime Teams (G32.0) are present or can be purchased.

(S1.4) MAPS

(S1.41) INITIAL PLACEMENT: Units specified as arriving at a map edge at the first of a turn are placed in a hex along that map edge before the Energy Allocation Phase.

(S1.42) UNIT ARRIVAL: Units which enter a scenario during a turn (rather than at the start of that turn) must pay for any movement points expended during the portion of the turn before they arrived. The ship is presumed to have traveled at a constant speed during the portion of the turn before it appeared. Changes under (C12.0) are not allowed before entering the map or for the first eight impulses on the map. For example, a ship moving at Speed 16 which arrived (according to the scenario rules) during Impulse #17 would still need energy for sixteen hexes of movement, not merely the eight hexes moved on the map.

(S1.43) FIXED AND FLOATING MAPS: Special rule (SH.41) of each scenario will specify if the map if "fixed" or is "floating."

In the case of a floating map, if units are about to move off the edge of the map, simply move every unit ten hexes (or some other number) away from the edge and allow the battle to continue. You can also place a second map (if you have one) aligned with that edge and continue the battle. If the ships divide into two separate battles going in opposite directions, simply place them on two separate maps and keep track of how far apart the battles have drifted.

If the map is fixed, it does not float. Whenever a unit leaves the map edge, that unit has left the scenario. In some scenarios, units belonging to one side may be restricted as to which map edges they can leave from. Violating those restrictions causes the ship to be destroyed. If a wild weasel, or wild SWAC, or wild Scout PF moves off the edge of a fixed map, it is voided and the seeking weapons return to their original targets.

(S1.5) NOTES ON DEPLOYMENT

(S1.51) FAST PATROL SHIPS: PF flotillas will generally be listed as simply "6xPF" rather than the more proper "PFL, PFS, 4xPF" form. In all cases not specifically noted otherwise, a flotilla will include one PFL and one PFS (e.g., the phrase "no leader or scout" would mean to not include the PFL and PFS).

Players who are not using electronic warfare have the option of replacing the PFS with a standard PF.

By mutual consent, players may replace the PFL with a standard PF as a means of simplifying the scenario.

The phrase "or any PF variant" refers to the combat *variants* of the standard type, such as those that replace drones with disruptors or phasers (or vice versa), and does not allow players to select mine warfare, commando, or cargo *versions*. Some scenarios may allow the choice of *versions* and, if this is the case, will be noted. The BPV cost or adjustment is included within the initial cost of the forces in play.

(S2.0) VICTORY CONDITIONS

Players may use this system to score some of the scenarios within this game or in determining a balanced force for a game.

(S2.1) BASIC POINT VALUE

All ships are assigned a basic point value (BPV), as shown on the MASTER SHIP CHART. While the term "point" has many uses, in this context it often refers to a "BPV point."

BPVs exist as a device to estimate the relative value of different units. It is not an exact science, and some unusual combinations of units that have equal BPVs will not be balanced. Similarly, players must consider that a balanced force with various capabilities is needed for victory; the fact that a particular unit is very expensive does not mean you should spend every point you have available to buy a few of them. Seen another way, if an NFL team spent its entire payroll buying eight superb wide receivers, it wouldn't win any games.

(S2.11) ITEMS INCLUDED OR NOT INCLUDED: The BPV of a ship includes its administrative shuttles, but does not (ever!) include mines, fighters, MRS shuttles, SWACS, or PFs. Note that fighters, SWACS, and PFs are purchased as units, not as Commander's Options (S3.2). Other special shuttles (MSS, MLS, HTS, GAS) specified in the ship descriptions are included in the ship's BPV, for example (R6.R3), but additional such shuttles could be substituted for assigned shuttles as part of the Commander's Options (S3.2).

The BPV of all ships (unless otherwise noted) does not include the drone speed upgrade charges; ships are required to pay these charges based on the date of the scenario. Players may use slower drones in special cases (asteroids, webs, bases) where faster drones are not appropriate.

(S2.12) SPLIT BPVs: The BPV of some ships is shown as two numbers (A/B). In these cases, the first number is the "Economic BPV," which reflects the cost of building the ship and its relative value. The second number is the "Combat BPV," which reflects its relative combat power.

See (G24.35) in the case of scouts.

The economic BPV of shuttles and fighters is one-half of the combat BPV; see (J1.85). Fighter EPV is not included in the EPV of carriers, or Hybrid ships (including Hydrans).

(S2.13) TUGS AND PODS: The BPV of some tug-pod combinations is different than the sum of their elements. See (G14.114).

(S2.14) GROSS ADJUSTED BPV: There are various equations, and calculations based on BPV, and it is important to perform them in the correct order. The key point is the "gross adjusted BPV" which is used for various calculations. This GABPV includes:

the cost of drone speed upgrades (FD2.22)
the effect of crew quality (G21.0).
the value of Legendary Officers (G22.0).

but does NOT include:

Commander's Optional Purchases (S3.2).
Fighters, PFs, SWACS,

There is a Combat and an Economic version of the GABPV.

(S2.2) VICTORY CONDITIONS

(S2.20) STANDARD VICTORY CONDITIONS: The use of these values in the basic victory system is as follows:

A - Before the scenario begins, both players total the "Combat BPV" of their ships. The player with the lower total scores points equal to the difference between the two if none of his units disengage or surrender by the end of Turn #2. In the case of reinforcements, their Combat BPV is not added until they have actually arrived on the map.

B - In (S3.2), players are given the option of "purchasing" extra weapons or other equipment by paying victory points to the enemy. Unless using Tactical Intelligence (D17.0), the Orion player must announce what weapons he has selected for his option mounts prior to either player purchasing Commander's Option Items. Note that the Orion player only states that he has taken type-A, B, C, or G drone racks, not what drones are in them.

C - After the scenario is over, each player scores points based on the "Economic BPV" of the opposing ships on a ship by ship basis using the percentages shown in (S2.21). Since the economic BPV is used, the effect of any pre-scenario damage on BPV is ignored unless the scenario specifically says otherwise.

(S2.201) When using the MODIFIED VICTORY CONDITIONS, ignore step A and use only steps B and C.

(S2.202) Many scenarios ignore (S2.2) altogether and define victory in terms of specific actions or accomplishments.

(S2.21) VICTORY POINTS RECEIVED: In determining victory for purposes of (S2.20), use the following percentages:

For scoring any internal damage	=	10% of BPV
For forcing a ship to disengage	=	25% of BPV
For crippling an enemy ship	=	50% of BPV
For destroying an enemy ship	=	100% of BPV
For capturing an enemy ship	=	200% of BPV

These percentages are based on the Gross Adjusted BPV. Only one of the above (the greatest) may be scored for each enemy ship (or unit) in play. If using the optional "leaky shields" rule (D3.6), ignore the 10% for "any internal damage."

If a unit self-destructs (D5.0), it is considered to have been destroyed "as a result of enemy action" and the enemy receives victory points as above.

In the case of multi-ship (or multi-side) battles, divide the victory points scored on any given target (including one that self-destructed) proportionally with the amount of internal damage scored on that unit by the various sides or factions.

Any units (fighters, MRS shuttles, extra marines, etc.) on a ship which is destroyed count as destroyed "as a result of enemy action."

If a pod is attached to a tug, it is counted as part of the tug for purposes of victory calculations. If it is dropped, it counts as a separate unit. (e.g., if every box on a pod SSD is marked destroyed but the pod is not dropped, it counts as part of a damaged tug; if dropped, it counts as a destroyed unit.) See (G14.33).

If a ship surrenders, but self-guiding seeking weapons are still targeted on it, the player receiving the surrender is not penalized for the damage the seeking weapons will do, except that the destruction of the surrendered unit by the weapons will limit the victory points received.

In the case of a separated ship section, see (G12.32).

See (G14.33) for tug pods.

EXAMPLE: A Federation CC is fighting a Klingon D7 in scenario (SG1.0) THE DUEL. The BPV of the CC is 137; the D7 is 121, so the Klingon player scores sixteen points. The Federation player also purchases some additional weapons and equipment (nineteen points worth), so the Klingon player scores an additional nineteen points. In the course of the scenario, both players scored internal damage on the enemy. The Klingon ship was crippled (S2.4), but the Federation ship disengaged to avoid being hit by several Klingon drones. Thus, the Federation player scored 61 points for crippling the D7 (121 x 50% rounded up); the Klingon player scored 34 points for forcing the Federation ship to disengage (137 x 25% = 34.25 rounded down), plus the 35 points he received for play balance. The score is thus 69 to 61 in favor of the Klingon ship, which thereby won the scenario. Since this score (69/61) is 113%, the Klingon won a marginal victory (S2.3). Note that while the Klingon ship was badly damaged, it did force a more powerful ship to leave the area. Had it been the Klingon ship that disengaged, however, the score would have been 61 (Federation) to 34 (Klingon) = 179%, a Tactical Victory for the Federation (or 56% and a Tactical Defeat for the Klingons).

(S2.22) ORION PIRATES: In the case of points scored on (not by) Orion Pirates, these percentages are:

Internal damage	=	10%
Destroyed	=	100%
Forced disengage	=	0%
Captured	=	500%
Crippled	=	50%

Damage from Orion engine doubling does count (against the Orions) for purposes of "scoring internal damage." If repaired during the scenario, engine doubling damage does not count.

(S2.23) SHUTTLES (including FIGHTERS): For damage scored on fighters and shuttles the percentages are (retain all fractions in the case of fighters and shuttles):

Damaged	=	25%
Crippled	=	50%
Destroyed	=	100%
Captured	=	100%

Points scored for enemy shuttles which were included in the BPV of the opposing ship are deducted from the BPV of the owning ship when resolving points scored against the ship. For example, a 125-point ship is crippled, but two of its shuttles were destroyed while on the map. The enemy scores two points for killing the shuttles and 50% of 123 for crippling the ship. Damage repaired before the end of the scenario does not count.

(S2.24) FRACTIONS: In the case of all of these percentages, round any fractions of 0.500 of more up to the next higher number, those of 0.499 down to the next lower one. Exception: See (S2.23).

(S2.25) CAMPAIGNS: Points received for pilot quality (J6.3), PF crew (K1.32), or crew quality (G21.3) are calculated, received, awarded, and evaluated separately from and in addition to victory points. The player might receive victory points to win the scenario, while the crews will receive experience points that improve their abilities in future scenarios.

(S2.26) EXTRA POINTS can be scored in various ways, mostly when specified by a scenario. Also: See (J3.222) for a captured WW.

(S2.27) STALEMATE: Some situations end in a stalemate. Neither force can (or will) leave, but neither can force the other to leave.
(S2.271) Case 1: Special scenario victory conditions may provide a way to resolve a stalemated scenario.
(S2.272) Case 2: If one player moves consistently toward the other while the other player consistently moves away (or one ship is consistently cloaked) and no internal damage is scored or manned shuttles are destroyed in ten turns, the force moving away (or the cloaked ship) is deemed to have disengaged.
(S2.273) Case 3: If a base, convoy, FRD, or other "fixed target" is involved, and no internal damage has been scored or manned shuttles destroyed in ten turns, the attack force must retreat.
(S2.274) Case 4: If all units are involved in a general melee, but neither player has scored any internal ship damage or crew casualties, or has destroyed any manned shuttles, within a period of ten consecutive turns, a stalemate exists. (This includes damage from mines but not terrain.) The scenario is over. Neither player loses (or gains) points for disengagement. Any positive level of victory is reduced by one level.

(S2.3) LEVELS OF VICTORY

To determine the level of victory, divide your score by that of your opponent, express the result as a percentage, and consult the following table:

PERCENTAGE	LEVEL OF VICTORY
500%+	ASTOUNDING VICTORY
300%-499%	DECISIVE VICTORY
200%-299%	SUBSTANTIVE VICTORY
150%-199%	TACTICAL VICTORY
110%-149%	MARGINAL VICTORY
91%-109%	DRAW (tie)
67%-90%	MARGINAL DEFEAT
50%-66%	TACTICAL DEFEAT
33%-49%	BRUTAL DEFEAT
20%-32%	CRUSHING DEFEAT
19%-	DEVASTATING DEFEAT

In the example given above, the Klingon player scored a "marginal victory" in the first case and suffered a "tactical defeat" in the second. If any score is less than one point, assume it to be "one point." (Division by zero is a mathematical limbo zone.)

(S2.4) CRIPPLED SHIPS

(S2.41) DEFINING CRIPPLED STATUS: A ship is crippled when:

A: 10% or less of its original warp engine boxes are undestroyed. Ships that have no original warp power, e.g., Romulan Warbirds, are never crippled under this heading. Bases of size class 3 or larger are crippled when 10% or less of their total power-generation (not counting batteries but including any docked modules) capability or less remains, bases smaller than size class 3 are crippled when half or less of their total power generation capability remains.

B: 50% or more of interior boxes destroyed; does not include shields, armor, sensor, scanner, DamCon, or excess damage. Crippled status is based on the number of destroyed "interior boxes". Landing the shuttle in a destroyed bay (J1.661) does not repair an interior box (the SSD will still show a destroyed shuttle box), it does allow that box to "absorb another point internal damage".

C: Any excess damage hits.

D: All of its control spaces destroyed.

E: All of its weapons destroyed.

Only one of these conditions need be met to consider a ship crippled, not all five. The definition of weapons for condition "E" is given in Annex #7D. Note that this definition of a crippled ship is used for victory conditions (S2.2), emergency life support, and other uses. Also note that this applies to ships (including PFs and bases) only, not to fighters or shuttles.

Repair under rules such as (D9.7) may "uncripple" the ship.

Crippling takes effect immediately once the conditions are met.

(S2.42) EFFECT OF CRIPPLED STATUS: This is a summary of the restrictions and conditions applied to crippled ships.

1. Can fire probes as weapons (G5.3).
2. Enemy gets points for crippling (S2.2).
3. Can use Emergency Life Support (B3.1 #7).
4. Uses (G2.2) for control (only if all control stations destroyed).
5. Loses nimble status (C11.3) if it was nimble.
6. Less effective in tactical intelligence (D17.21).
7. Loss of -2 HET bonus if not already used (C6.522).

(S3.0) BALANCING SCENARIOS

The problem of balancing a scenario (giving both sides a fair chance to win) is compounded by different levels of skill and styles of play among gamers. To compensate for these things, which are beyond the control of the game and scenario designers, players may wish to make modifications to certain scenarios in order to improve their balance. This can be done by modifying the scenario or by equipping the ship with improved weapons.

(S3.1) MODIFYING SCENARIOS

No all-encompassing rule is possible in this regard, but certain basic principles can be used as a guide. Most scenarios include suggested means of adjusting balance between players of different skill levels.

The easiest way to modify a scenario is to exchange one of the ships shown in the set-up instructions for a larger one or a smaller one. Another alternative would be to apply several points of random, or carefully selected, damage to one of the ships before the scenario begins. Other alternatives include limiting a ship's ability to accelerate, limiting its top speed, restricting its maneuvering room by requiring it to remain in a certain area, or placing terrain features that may be more advantageous to one side than the other.

One more subtle approach is to give the stronger player an additional ship, but one that is weak (such as a freighter) or badly damaged in an (assumed) earlier battle. This ship will be more of a liability than an asset.

Another possibility is to "spot" an opponent a number of points, which are added to his score at the end of the scenario.

There are many more ways in which a scenario can be modified. Usually, the fairest way to approach it is for one player to propose a scenario and its modifications, and then for the other to choose which side he wants to play.

Scenarios can, of course, be modified for reasons other than play balance. Perhaps a new ship has appeared in the latest issue of *Captain's Log* and you want to test it in an established scenario? Perhaps you want to use a variant suggested in one scenario in a different scenario? Anything mutually agreeable to the players can be used, but be advised that play balance may shift dramatically and that every change from a published scenario will compound the danger of undesirable play-balance implications.

(S3.2) COMMANDER'S OPTIONS

(S3.21) GENERAL: Players may, under the terms of Section B of the Standard Victory Conditions (S2.20) and the limitations of (S1.3). purchase extra weapons, boarding parties, etc., for their ships. The cost of such items is shown on Annex #6. Some of the items on Annex #6A (e.g., outstanding crew), while they could be purchased as Commander's options in a patrol scenario, are normally purchased as part of the overall force structure of a patrol scenario and are not within the percentage limits given here.
(S3.211) Under (S1.3) and in most scenarios, ships are allowed to purchase Commander's Option items up to 20% of the "Effective Adjusted Combat BPV" of the ship (the ship, its refits, and its fighters, but not including the cost of mandatory drone speed upgrades or crew quality adjustments). See (S3.23). If you buy a refit (S3.24) with Commander's Options, this does not increase the Effective Adjusted Combat BPV.
(S3.212) A wide variety of items are listed on Annex #6. These are subject to various availability restrictions found in the rules. See, for example, (FD10.6) for special drones. You cannot buy "extra" drones unless the ship had some drones to start with. You cannot buy type-

VI drones unless the ship can normally use drones of that type, e.g., has type-E drone racks or operates fighters or purchases a drone-armed MRS shuttle.
(S3.213) Standard freighters cannot purchase T-bombs.

(S3.22) DRONE SHIPS: Ships armed with drones have certain special characteristics.
(S3.221) Drone speed upgrade charges are not included within the limit on Commander's Options (they are paid for separately or included in the victory conditions of a fixed scenario). Exception: Faster drones available as limited or restricted weapons in years prior to their general introduction are purchased as Commander's Options.
(S3.222) Drone bombardment ships (marked "DB" in the notes column on the Master Ship Chart) might be loaded entirely with type-III-XX drones (FD10.671), using their normal racial drone percentages for special warheads, if assigned to an independent bombardment mission. In this case, the ship pays the normal costs for its drone racks (with free reloads) and 25% of the total cost of the drones in the cargo boxes. If not on such a mission, a drone bombardment ship is treated as a D% ship (S3.223), i.e., as if it were a carrier with ten or more fighters.
(S3.223) Certain ships (marked "D%" in the notes column on the Master Ship Chart) are allowed a higher percentage of special drones under (FD10.6). These ships may expend points up to 30% of the Effective Combat BPV on Commander's Option items, but the extra 10% can only be spent for extra or improved drones.

(S3.23) CARRIERS: Carriers add the cost of their fighters to their Effective Combat BPV for purposes of calculating the number of points that can be spent for Commander's Option items, but the extra points received as a result (the % of the fighter BPV) must all be spent for fighter supplies and weapons (e.g., extra drones, chaff pods, booster packs, deck crews, EW pods, etc.).

(S3.24) REFITS which are available in the year of the scenario but which are not specified for the ship may be purchased as Commander's Options in a fixed, i.e., historical, scenario. If a ship never received a particular refit (as noted in either its unit description or on its SSD) it cannot purchase that refit as a Commander's Option unless the opposing player(s) have agreed to allow this as an experiment. If you buy a refit with Commander's Options, this does not increase the Effective Adjusted Combat BPV (S3.211).

(S3.25) SHUTTLES: Special shuttles (e.g., HTS, MRS, or GAS) may replace administrative shuttles for the cost shown on Annex #6. Fighters cannot be replaced, and special shuttles cannot be "sold back" to gain points for other uses. MRS are limited by (J8.5).

(S3.26) INDIVIDUAL: Ships cannot "pool" their BPVs to buy equipment for the entire squadron. Each ship buys its own options as an individual. Equipment can be transferred between ships during the scenario by (G25.0).

(S3.27) MINES, MINEFIELDS, MINELAYERS: There are special rules on these items.
(S3.271) The number of T-bombs allowed is limited by (M3.13).
(S3.272) Only minelayers, ships with mine racks, and certain Romulan ships can have large mines. See (M2.7).
(S3.273) Pre-established minefields are purchased as forces, not as Commander's Options. They can only be purchased if specifically allowed by the scenario. The player may be assigned a number of points or (if not) may use points from his force allowance.
(S3.274) Only minelayers and minesweepers can have MLS or MSS shuttles.

(S3.3) MODIFYING SHIPS

Previous editions of *STAR FLEET BATTLES* have included, under this rule heading, various suggestions and restrictions on ways players could modify ships, adding or replacing various weapons or other systems. These rules were often abused, seldom understood, and were never adequately complete to cover every case. As a result, players willing to do anything to win (regardless of how ridiculous that might be) usually did. In the *Captain's Edition*, player modifications have been deleted. (The original purpose, to allow the creation of special purpose variants, has long been satisfied by the publication of SSDs for those variants.) A more comprehensive and workable section of modifications rules may be published in a future product; rule number (S7.0) has been reserved for this purpose.

Note that specified refits and variants are not ship modifications in this sense and are legal under the current rules.

(S3.4) BIDDING

One of the most fascinating approaches involves "bidding." Generally, one player designs a scenario (or uses or modifies a published one) and then invites other players (possibly including himself) to "bid" on taking one side. Exactly what is being bid will be specified in the scenario. For example, one player might suggest a scenario involving a convoy and a pirate ship. The players would then bid on the basis that they will take the pirate if given so many points to buy and equip the pirate's ship. The player who submitted the low bid would then take the pirate and use a number of points equal to his bid to purchase and outfit the pirate ship before the scenario begins. Bidding can also be used by specifying one side of a scenario (and the victory conditions), then holding an auction to determine who will play the other side. The low bidder then buys his entire force [including (S3.2) options] with the points that he bid.

(S4.0) WEAPONS ARMED STATUS

Life on a starship has been described as "six months of boredom and six minutes of stark, screaming, terror." This rather romantic description is very accurate. Starships may patrol for months or years without ever being called upon to use their weapons. The scenarios that players of the game play or create represent the "few minutes of action" that follow months of patrolling.

Because of this situation, starships simply do not patrol with their weapons "loaded." Besides being expensive in terms of power (and hence fuel) and hard on the maintenance crews (who have enough to do), it is outright dangerous. (Even on a starship, safety is a top priority.) Thus, a ship entering a scenario may not have all (or perhaps any) of its weapons armed.

At all levels of a ship's weapons status, the owning player may elect to have some or all of his weapons armed to a lower status for tactical reasons.

Ships damaged in prior scenarios may not be able to load weapons in higher weapons status conditions. For example, a ship with no warp power might be allowed to have fully loaded photons under WS-III, but would not be able to arm them.

In some cases, for reasons given in the scenario introduction, the ship may have had a warning that action was expected, and this is reflected in the instructions. For example, a ship attacking a base knows exactly where its target is located (the base may have been there for decades) and hence knows exactly when it will go into action. The base, which hasn't seen an enemy ship in years, has no particular reason to know that TODAY is THE DAY that the enemy will attack.

Note particularly that weapons status reflects the condition and operating restrictions of the ship at the *start* of the scenario, and does not directly limit what the ship does during the scenario. For example, at WS-II only one shuttle can be prepared for a special role. This does *not* mean that during a scenario which *started* at WS-II a ship could not have more than one shuttle prepared for a special role at any one time. Similarly, PFs are limited by (K2.43) as to what weapons can be loaded at the start of the scenario, but does not prevent those weapons from being reloaded while docked during the combat scenario.

(S4.1) ARMING STATUS

For game purposes, a ship is presumed to have it weapons armed to one of the following levels, known as the ship's "WEAPONS STATUS." See (S4.3) for additional conditions. An MRS is treated like a fighter for arming status rules, but cannot be launched before the scenario begins. If loaded as an SP, an MRS would count as one of the "special" shuttles. Also see (G26.22), web anchor. References to carriers includes fully capable carriers (J4.61) and most Hydran ships (J4.623). Fighters on patrol are considered to have fulfilled all launch (J1.34) requirements and are under no fire/launch restrictions. Drone rack loadouts cannot be changed from initial purchases at any weapon status except as specified by special scenario rules.

(S4.10) WEAPONS STATUS 0: Ship is not expecting hostile action, but is operating on peacetime conditions.
- Phasers not energized (E2.3), no energy in phaser capacitors (H6.0).
- No torpedoes (or other multi-turn arming weapons) are armed.
- No special shuttles (scatter-pack, wild weasel, or suicide shuttles) may be prepared.
- Drone racks and plasma-F launchers (or plasma-F fighter reload boxes) are loaded.
- No energy may be stored in ESG systems (G23.23).
- Carriers may have two of their fighters armed and ready to launch, but no other fighters may be armed with any reloadable weapons.
- The batteries are fully charged. Exception: (D10.55).

(S4.11) WEAPONS STATUS I: The ship is not expecting hostile action, but is in an area where such action has occurred in the recent past. This is the same as Weapons Status 0 except that:
- Phasers are energized; the phaser capacitors are empty.

(S4.12) WEAPONS STATUS II: The ship is expecting enemy contact within a short time. The ship can remain in this status for several hours if need be.
- Phasers may be energized and the capacitors fully charged.
- Prior turns arming (but not the last turn) for multi-turn arming weapons may be assumed to have been completed on turns prior to the start of the scenario.
- Energy may be stored in systems designed to hold it for several turns, e.g., ESG capacitors, displacement devices. (Batteries are charged under WS-0.)
- One shuttle may be prepared for a special role (SP, SS, WW).
- Carriers may have completed two turn's activity by their deck crews, and two of their fighters may be launched and placed on the board within two hexes of the carrier as a Combat Space Patrol. If fighters are deployed, the fighters and the ship must have the same facing and the speed of the ship on the "previous turn" cannot exceed the maximum speed of the fighters. Launched fighters can be going faster than the ship.
- Tholians may have formed a pinwheel, and have deployed a zero-strength web around it.

(S4.13) WEAPONS STATUS III: The ship is expecting imminent contact or is moving to engage a known enemy force. This is generally the same as Weapons Status II, but with the following additional provisions. The ship can remain at this high level of readiness for only a short time.
- All fighters may be armed. Carriers can deploy four of their fighters within two hexes. If fighters are deployed, the fighters and the ship must have the same facing and the speed of the ship on the "previous turn" cannot exceed the maximum speed of the fighters. Launched fighters can be going faster than the ship. The "launched" fighters may be placed on the balcony instead, but additional fighters cannot be.
- Formal PF tenders can deploy two of their PFs within two hexes. Casual PFTs (K2.5) cannot do this.
- Two shuttles may be prepared for special roles (SP, SS, WW). One of these (on a PFT) could be a scatter-pack mounted on a PFL docked to that PFT.
- Multi-turn arming weapons may be assumed to be fully armed and are being held in their launch tubes; in this case holding energy must be allocated on the first turn. Note that weapons which cannot be held (e.g., plasma-R torpedoes) cannot be completed prior to this point. Fusion beams are NOT multi-turn arming weapons and cannot begin the game "held" at any weapon status.
- Up to 10% of the crew may be converted to Militia (D15.83) if the objective of the scenario is to land troops on a planet or to board and capture a specific unit.
- The unit may be assumed to have fired drones [one per rack (or deployed fighter), fewer if firing restrictions apply] on Impulse #28 of the previous turn. These drones can be placed on the board within four hexes of the launching unit. This provision is ignored with slow-speed drones. Drones placed on the map at start may not be placed within three hexes of an enemy unit. These can be ECM drones, probe drones, or any other type. ECP torpedoes may be deployed under the provisions of this rule.
- Tholians may have formed a pinwheel, and that pinwheel may have a strength-10 web around it.
- Deception under (D17.71) and (D17.72) may be used.

(S4.14) NOT ALLOWED AT ANY STATUS: Some things cannot be done in advance and must await the actual beginning of combat. These include:
- No SWACS or MRS (or cloaked decoy) can be deployed from any ship.
- No scatter-pack, wild weasel, plasma torpedo (exception; ECPs), or suicide shuttle may be deployed (launched) from any ship.
- The unit cannot be: cloaked (G13.0), using Erratic Maneuvers (C10.0), using passive fire control (D19.0), moving in reverse (C3.5), or on silent running (D17.75) unless allowed by the scenario.

Note that a ship can only begin a scenario moving in reverse if the scenario set up says that it was doing so. A player may use braking or mid-turn speed changes to move in reverse if he so desires; the ship was moving at its maximum speed on the previous turn regardless of any energy supposedly diverted to arming weapons or other uses. If the players are creating a scenario, a player must have the permission of his opponent to begin the scenario moving in reverse.

(S4.2) DETERMINING STATUS

In general (SG0.0) or patrol (S8.0) scenarios, players may roll to determine the weapons status of their ships. (In historical, and some other, scenarios it is specified.) The purpose of this rule is to simulate the above-described fact that a ship would not waste energy keeping weapons warmed up for months or years just in case an enemy happened to show up. This would only happen if the enemy was detected.

Players may simply select a weapons status by mutual agreement. Shrewd players will search for the one that best favors their own forces.

(S4.21) DIE ROLL: Each player rolls a single die. One die is rolled for the entire fleet, but it may be modified on a ship by ship basis depending on certain conditions. In this case, one ship of a fleet might have weapons armed while another didn't.

(S4.22) POSITIVE MODIFIERS: The die roll is increased by one (these effects are cumulative) if:

- The ship has a legendary captain or navigator.
- The ship has an "outstanding crew."
- This ship has scout functions (G24.0). (This effect counts for the entire fleet.)
- The ship is Orion (they always expect trouble). The Orions do not receive both this modifier and the "wartime" modifier, even if operating as mercenaries. A WYN ship outside of the cluster receives this modifier. A WYN ship does NOT receive both the outside and war modifiers.
- The empire is at war, and the unit is in a war zone.

(S4.23) NEGATIVE MODIFIERS The die roll is reduced by one (these effects are cumulative) if:

- The ship has a "poor" crew.
- The ship has a sensor rating less than six.

(S4.24) CUMULATIVE MODIFIERS: The effects of (S4.22) and (S4.23) will offset each other if both apply. The final result can be no more than +2 and no less than -2.

(S4.25) FINAL DIE ROLL: The final, adjusted, die result determines the weapons armed status as per the chart below:

DIE ROLL	WEAPONS STATUS
less than 3	0
3–4	I
5–6	II
7+	III

(S4.3) RESTRICTIONS AND CONDITIONS

(S4.31) BALANCE: This "armed" condition can be used to balance the scenario.

(S4.32) OVERLOAD: Prior turns arming allowed by Weapons Status II or Weapons Status III cannot include overload energy.

Exception: Ships armed with photon torpedoes have two points of free overload energy per tube from prior turns when at WS-III. This energy may be allocated between the various photon tubes at the option of the owning player, but all must be used for overloads; none can be used for arming.

NOTE: This rule is often restricted to the Federation in tournaments. Check local tournament rules.

(S4.33) SPECIAL CASES: Several special cases are defined in the specific rules for those systems.

See (D18.0) for surprise.
See (E12.32) for web casters.
See (FP10.25) for plasma racks.
See (G10.8) for webs.
See (G23.23) for rules concerning ESGs.
See (K2.37) for PFs and (K1.82) for Fi-Con PFs.
See (P7.4) and (R12.1C) when entering the WYN cluster.
See (G5.21) for probes.

(S4.34) SCENARIO RULES: The rules of a given scenario may modify or override the weapons status rules.

(S5.0) LOCAL CONDITIONS *(Optional)*

In order to introduce some variation to the scenarios of a campaign game (or regular gaming), players may choose to use the chart below to determine the "Local Conditions" in the area of their scenario. This will produce a random "terrain" feature that will prevent the scenarios from all being more or less the same.

Note: There are references in these rules to *Module B*. This was a product which included specially printed maps of various terrain features that is now out of print. If you have this product available, you can still use the maps as indicated.

(S5.1) LOCAL CONDITIONS CHART

At the start of each scenario, roll two dice (either player can do the honors, or each player can roll one) and use the total to determine the local condition from the chart below.

2 — BLACK HOLE
3 — NEBULA
4 — PLANET AND MOON
5 — WANDERING MONSTER
6 — ASTEROID BELT
7 — EMPTY SPACE
8 — OLD MINEFIELD
9 — PIRATE
10 — GAS GIANT
11 — VARIABLE PULSAR
12 — ROLL AGAIN, TWICE

(S5.2) EXPLANATION OF RESULTS

Each result from the chart creates certain special conditions, which are described as follows:

2-BLACK HOLE: A Black Hole (P4.0) is located in hex 2215. You may use the map from *Module B*.

3-NEBULA: The scenario takes place inside a Nebula (P6.0).

4-PLANET AND MOON: A class-M planet (P2.21) is in hex 2420. A moon (P2.23) is in hex 1514.

5-WANDERING MONSTER: A monster is in hex 2220. Roll one die to determine which monster is present:

1-Planet Crusher.....(SM1.0)
2-Space Amoeba.....(SM2.0)
3-Moray Eel.....(SM3.0)
4-Cosmic Cloud.....(SM4.0)
5-Sun Snake.....(SM5.0)*
6-Mind Monster.....(SM6.0)*

*These are in *Advanced Missions*. Players who do not have that volume should use (SM3.0) instead. Players may wish to use the two monster tables from (U2.11).

The scenario is then resolved with the monster unfriendly to both players. Scenario (SG9.0) can be used to resolve it by a different means.

6-ASTEROID BELT: Set up an asteroid belt (P3.1), or use the Asteroid Belt or Asteroid Field map from *Module B*.

7-EMPTY SPACE: No local conditions, simply an empty map. When not using the local conditions rule, most scenarios are of this type.

8-OLD MINEFIELD: Set up an asteroid belt (P3.1), but in this case the asteroid counters do not represent asteroids but nuclear space mines (M2.0) of an old minefield. The minefield is neutral. Each mine hex includes one large mine set to trigger on ships of size 4 or larger and one small mine set to trigger on units size 5 or smaller. You could also use the asteroid field map from *Module B*.

9-PIRATE: A pirate CR is in hex 2215, unmoving, Weapons Status III, all extra energy in general shield reinforcement. Optional weapons are drone racks in the wings and disruptors in the center. At the start of each turn, before the Energy Allocation Phase, both players roll one die. Each keeps a running total of his die rolls. When the total die rolls of one player exceed those of the other by ten (or by some other number if mutually agreed), the pirate ship automatically and immediately joins (comes under the control of) that player.

Alternatively, if the pirate is fired on by either player, the other player immediately and automatically assumes control of the pirate and the die roll procedure is dropped. In any event, the pirate ship will disengage automatically (C7.4) at the end of any turn in which it is crippled. It should be noted that attacking the pirate is a worthwhile option, since crippling it (with a surprise blow) would score 43 points. If both shoot at the pirate simultaneously, it disengages automatically (C7.4). The following are NOT considered to constitute "attacking" the pirate: wild weasel collateral damage. The following ARE considered to constitute "attacking" the pirate: dropping a mine or T-bomb in his hex or in an adjacent hex.

If this condition appears in scenarios involving pirates, assume the pirate to be of a different cartel.

10-GAS GIANT: A Gas Giant (P2.22) is located in hex 1815. Roll one die to determine the radius; consider a die roll of "one" or "two" to be "three". (If the die roll is three, the planet would extend from 1515 to 2115 and from 1812 to 1818.) The outer ring (example, hex 1812 above) is atmosphere (P2.6). Rings two hexes wide surround the planet; there is a one hex gap between the planet and rings. (In the above example, hex 1811 would be clear, hexes 1810 and 1809 would be ring hexes.) You can also use the Saturn map from *Module B*. (Most gas giants have several moons of various sizes; you may add these if you wish. Allow each player to roll a die and place that number of moons anywhere within twenty hexes of the planetary surface.)

11-VARIABLE PULSAR: A Variable Pulsar (P5.0) is in hex 2215.

12-ROLL AGAIN, TWICE: This creates two overlapping conditions. Roll again, twice, and use both results except that:

* another "12" is ignored.
* In the event of a Black Hole, ignore the other result.
* If both #4 and #10 are rolled, ignore #4.
* If both #6 and either #4 or #10 are rolled, ignore #6.
* In the event of a Variable Pulsar, ignore the other result unless it is a Black Hole.

(S5.3) RESTRICTIONS AND CONDITIONS

Certain conditions and restrictions are applied to this system.

(S5.31) EXISTING TERRAIN: If terrain is specified in the scenario, do not use the local conditions system.

(S5.32) BASE: If a base is specified for the scenario, ignore conditions two, three, five, eight, nine, and eleven. If the base is within three hexes of a planet (or ring), the owner of the base must move it to any hex (of his choice) that is four hexes from the planet.

(S5.33) SHIP SET UP: Ships specified to set up in specific hexes may be moved (by the owning player) up to six hexes in any direction to avoid conflict with one of the local conditions.

(S5.4) ADVANCED LOCAL CONDITIONS

The charts below can be used in place of (S5.1). They incorporate new material from *Advanced Missions* and other products. Roll one die on the Event Chart to determine which of the secondary charts to use.

(S5.41) RANDOM EVENT CHART

1. THIRD PARTY: See Chart A
2. TERRAIN: See Chart B
3. DANGEROUS ZONE: See Chart C
4. MONSTER: Use either chart from (U2.11)
5. ROLL AGAIN, TWICE (same rules as before, but a second Black Hole result indicates one Black Hole with gravity waves.)
6. EMPTY SPACE: No terrain; standard map.

(S5.42) CHART A: THIRD PARTY INTERVENTION

1. PIRATE: See #9 on original chart. Optional weapons are drone racks in the wings and disruptors in the hull.
2. ANDROMEDAN: Requires third player; if not available use Pirate. Third player operates Andromedan as per (SG10.4).
3. FREIGHTER: Large (neutral) freighter in 2215 facing B, Speed 4; will not turn, slow down (unless damaged to the extent it cannot maintain speed), or fire. Shields maximum with all extra power in general reinforcement. One hundred points awarded for capturing the freighter; no points for destruction, crippling, etc.
4. OLD MINEFIELD: See #8 on original chart.
5. DERELICT: Wrecked cruiser in 2215. Toss a coin to determine the original owner (from among the players in the scenario). The ship is a CL or CW of the designated empire. There is no crew on board. It is at Speed Zero, WS-0, no damage repaired. Apply 75 points of damage as a single volley to the unreinforced #1 shield by the DAC. Neither player receives any points for destroying or damaging the ship, but either player receives 200 points for capturing it.
6. EMPTY SPACE

(S5.43) CHART B: TERRAIN

1. BLACK HOLE: See #2 on original chart.
2. PLANET AND MOON: See #4 on original chart.
3. ASTEROID BELT: Set up an asteroid belt (P3.1).
4. GAS GIANT: See #10 on original chart.
5. VARIABLE PULSAR: In hex 1720, (P5.0).
6. EMPTY SPACE

(S5.44) CHART C: DANGEROUS ZONES

The scenario takes place in a dangerous zone. The border (last effective hex) of the zone is 100 hexes from 2215 in any direction.

1. NEBULA (P6.0)
2. HEAT ZONE (P10.0)
3. RADIATION ZONE (P15.0)
4. ION STORM (P14.0)
5. DUST CLOUD (P13.0)
6. EMPTY SPACE

(S6.0) DEFEATING MONSTERS

Monster scenarios (SM) often use the chart below to determine victory over the creature.

(S6.1) MONSTER DEFEAT TABLE

Monster scenarios often use the table below to determine victory over the creature. In many scenarios involving monsters, the investigating ships are required to obtain a required number of scientific information points about the monster in order to roll on the table below. These points can be gained by the use of labs (G4.1), probes (G5.2), probe drones (FD6.0), shuttles (J2.212) not including fighters (J4.41) but including some other types described in the rules, MRS shuttles (J8.31), SWAC shuttles (J9.33), and scout channels (G24.27).

Note that Tactical Intelligence (D17.0) may be used to gain information about monsters which are typed as ships (none of which are in *Basic Set),* such as those in table (S6.2) below, but this information is of a different kind and doesn't work with table (S6.1).

DIE ROLL	HOW TO DESTROY THE MONSTER
1	Monster can be destroyed by a suicide shuttlecraft (J2.22).
2	Monster will be destroyed if held in a tractor beam.
3	Monster can be destroyed by 200 points of damage from any weapons.
4	Monster can be destroyed by a probe (G5.3).
5	Insufficient data. Accumulate 100 more points of information and roll again.
6	Communication established with Monster. It becomes friendly and you are not required to destroy it. If you have scored more than 50 points of damage on it, you lose the scenario.

(S6.2) MONSTER DATA TABLE

See Annex #12. This data is in an annex so that it can be updated as new monsters are encountered and brought to you in future products.

(S6.3) INCOMPLETE ENGAGEMENTS

In the event of a second scenario against the same individual monster, any damage to the monster scored in the first scenario would be repaired, but any information gained would still be known. The ship would, however, have to gain an additional 50 points of information to determine that this was the same monster and that no other conditions had changed. These 50 points are then lost, but the points gained in the previous scenario(s) are restored at that point. Accumulation of additional points then begins. If less than 50 points were gained in the first scenario, they are lost and the 50 points to re-identify are not required.

(S6.4) REPEAT ENGAGEMENTS

In the event of a scenario against a monster of the same type as one previously defeated (but not the same individual), the ship must gain 50 points of information to establish that it is the same type of monster. After that, the method of defeating the monster established in the previous encounter is confirmed as still usable on a die roll of one-to-five. On a die roll of six, the previous information is determined to be invalid in this case, and the ship must treat the monster as a new case (with the 50 points gained counting toward the determination required).

(S7.0) SHIP MODIFICATIONS

This rule number has been reserved for a comprehensive rule on modifying ships. It is not known at this time when this rule will be presented.

(S8.0) PATROL SCENARIOS CONDITIONS AND RESTRICTIONS

The majority of scenarios played by experienced *SFB* players are "patrol" scenarios, where one takes a given number of points and buys an appropriate fleet or squadron to use. Sometimes the players will bid (S3.4) for a certain position and buy their force with the points they bid. Patrol scenarios come under a variety of restrictions and conditions, many of which are expressed (some clearly, others more subjectively) in various rules.

Patrol scenarios are also known as BPV battles, Buy Your Fleet battles, and Pick Up Games.

The rules below are a partial compilation of the various rules found elsewhere and some additional restrictions and conditions. Players can, of course, modify or ignore any of these rules by mutual consent, but may find that play balance suffers.

A common feature of "patrol scenarios" is that they have no future and no past. There is no previous battle to affect what ships are available and what condition they are in; there is no future battle to preserve ships for. If playing in a campaign situation, these Patrol scenario restrictions will provide some guidelines, but available ships may force involuntary violations of some provisions. For example, a carrier must have escorts, but if the escorts were lost in a previous battle, they simply are not available.

Some published scenarios violate some of these conditions. This is done only when various circumstances make it possible, and those circumstances are impossible to define in general terms. Hence, no published scenario can be considered as a precedent for changing any of the rules and restrictions of this section. Such precedents may be used when trying to secure mutual consent from opponents, but the opponents need not agree.

Historically, battle forces are made up of the ships that were available rather than what a player might regard as a perfect force. A Federation DNG, BCG, three CCHs, six NCAs, and an NHS would never appear (although these rules would allow such a force to be created). While many players disparage the smaller ships in *SFB*, the reality is that most battle forces will be composed of a mixture of ships. Players who decide not to mix the smaller ships into their battle forces are robbing themselves much of the tactical flavor of the game system.

(S8.1) GENERAL CONDITIONS

(S8.11) BASIC POINT VALUE: Units are purchased for their combat BPV. See the Master Ship Chart, Fighter Chart, and PF Chart. Exception (G24.35). Note specifically that fighters are purchased at Combat and not at Economic BPVs.

(S8.12) COMMANDER'S OPTIONS: Players can purchase extra equipment for their ships under (S3.2). MRS shuttles are purchased as Commander's Options within the limits given in (J8.5) and (S3.2). Other special shuttles (e.g., SWACS, MSS, MLS, etc.) are defined by various rules.

(S8.13) SCENARIO DATE: Players should select the scenario date with some care, as it will define several things:
(S8.131) What ships, fighters, and other units will be available.
(S8.132) What refits those ships must have (and pay for) as well as other refits that could be purchased under (S3.2). Generally, a player must buy and pay for the refits appropriate to the date of the scenario. It could be presumed that one or two ships did not receive their refits for up to five years after the normal refit date. Some refits indicate that they took place over a period of years, and players in scenarios during these years may use such refits (or not) as they choose.

(S8.133) The drone speeds that are available for purchase. Note: the only drones that are included in the BPV of a unit are type-I slow (or type-VI moderate in the case of type-E drone racks). See (FD2.45) and (FD10.6) for the costs of improved drones to include speed upgrades and when these are available. Exception: drone speeds are included in the BPV of advanced technology (X-ship) units.
(S8.134) Weapon status (S4.0) may be defined by die roll or by mutual agreement.
(S8.135) The size of the map and whether it is floating or fixed must be decided (by mutual agreement) before the battle forces are selected.

(S8.14) EMPIRES: Generally speaking, the players can use any empires. You may prefer to limit your battle to adjacent empires; see the map in (T0.0). Empires should be selected before either side selects its forces.
(S8.141) WYN ships (other than the "fish ships" in *Module C3* and other later products) normally do not operate outside of the cluster and (except for a few types) will be very unsuccessful in any attempt to do so. Note the restrictions on WYN option mount selections in (G15.442).
(S8.142) Andromedan ships are notoriously hard to balance and virtually require a different force level against each potential opponent to be balanced. Note that various general restrictions (cargo, maulers, etc.) are modified as they apply to Andromedans.
(S8.143) Orion ships seldom operate in fleet strength on purely military missions. Severe balance problems may result when attempting to do so. Don't forget to assign the home cartel (R8.1) of the pirates to limit their option mount selections (G15.44). See the next rule.
(S8.144) Orion mercenaries may appear under these conditions:
Mutual agreement and cartel assignment beforehand.
No more than 1/3 of the total force. This is calculated both by the BPV of the force and by the total number of ships; neither can be more than 33%, but either might be much less. An example would be two BRs each with three disruptors and two type-A drone-racks (medium speed drones) in their option mounts (238 BPV). The rest of the force must include at least four ships (one of which is the command ship) and a minimum BPV of 476 points. (Optional, entire force consists of mercenaries.)
Any crippled Orion ship disengages automatically (C7.4).
An Orion ship cannot be the fleet flagship unless the force includes only Orions.
(S8.145) Experienced players recommend against using too many different types of technology in one battle as this confuses the rules and can have interesting effects on play balance.

(S8.15) TERRAIN: Players can use any type of terrain (including open space) suited to their interests. They can use local conditions (S5.0) to define terrain, create something mutually acceptable, or use one of the special maps in *Module B* if you have that out of print product available. Some playing groups design a favorite area of space and use it over and over in campaigns.

Players should select the terrain *before* purchasing their units. While it can be interesting to be surprised by the terrain, it is also possible that the selection of terrain may be the sole deciding factor in the battle and could make actually playing the scenario pointless (e.g., a Neo-Tholian force will win if the terrain die roll produces asteroids; a carrier force will lose if the terrain die roll produces a nebula).

One compromise is to select six types of terrain, then buy the fleets, and then roll to see which type of terrain will be used. Care must be taken, however, to select terrain with uniform results. For example, some terrain types (nebulae, heat zones, gravity waves, dust clouds, pulsars) are very tough on fighters, and if one of those types was selected by die roll, any force that invested in fighters will be placed at a severe disadvantage. So you should select six terrain types that are all hard on fighters or six types of which none are.

(S8.16) RULES: Players should decide what rules (Advanced, Commander's, Optional) they will and will not use before buying their fleets.

(S8.17) SHIPS PER PLAYER: To avoid slowing down the game, players should not try to control too many ships. As a guideline, three ships per player is a good limit, but some players can efficiently handle more and some cannot handle three (at least not without other players complaining of delays). Less experienced players handling more than one ship should be given identical ships (or at least variants of the same hull type) to reduce the workload.

(S8.18) SHIP MODIFICATIONS under (S7.0) cannot be used unless the specific ship and modification has been approved by the opposing team in advance.

(S8.19) DRONES: Drones can be transferred (as cargo) between ships between scenarios during a campaign (and not before the first scenario), but no ship can ever have more than its allowed number of limited or restricted drones.

(S8.2) COMMAND LIMITS

(S8.21) GENERAL: Each fleet must have a flagship, which will usually (but not always) be the largest ship or the one with the highest command rating. In addition to this flagship, the fleet can include a number of ships equal to the "*F&E* Command Rating" of the selected flagship. These command ratings (from the strategic game *Federation & Empire*, which is based on the same background) are listed on the Master Ship Chart. A command rating of nine means that you can have that command ship plus nine other ships. The command rating is only used to create the battle force, there is no reduction in the combat efficiency of the battle force if the command ship is destroyed or disengages and no remaining ship is technically able to command the remaining ships.

(S8.22) SPECIAL CASES: There are some special cases regarding command limits:
(S8.221) Andromedan ships do not use Command Limits, but instead use the restriction in (G18.82) which allows two ships with DisDevs [this could be two size class 2 units in an exception to (S8.331)] plus whatever satellite ships they have on board. Andromedan motherships can be deployed with any mix of satellite ships selected by the Andromedan player so long as: they fit in the hangar; they are available in the year selected; there is no more than one scout; there is no more than one Energy Module; and there is no more than one mauler on each mothership. Not all hangar spaces must be filled. Note that due to the limit on two ships using DisDevs, no satellite ship that arrived inside a mothership could use one except by (G18.84). If one (or both) of the two Andromedan DisDev-equipped units is an independent satellite ship (e.g., Anaconda) it could be a scout, mauler, or other numerically restricted satellite ship.

(S8.2211) Andromedan satellite ships, as opposed to sleds, do not normally appear without a mothership. In such cases where it is agreed that satellite ships will appear without a mothership, they must adhere to the rules on command ratings. Note that in a campaign it might be possible that satellite ships remain after their mothership has been destroyed and they may be trying to reach a rendezvous to be picked up by a mothership. Sleds are generally treated as cargo ships (S8.54) and auxiliaries (S8.51). See also (S8.271) and (S8.531).
(S8.2212) Andromedan mobile weapons platforms are treated as fighters at a base (including a ground base designed to operate them), and as any other satellite ship if carried by a mothership. Mobile weapons platforms can appear in a scenario without a mothership as fighters can, with the assumption that they launched from an acceptable base or mothership that is not present in the battle force. A maximum of three squadrons of twelve mobile weapons platforms can appear in a scenario independently if there is one mothership, but if there are two motherships only mobile weapons platforms carried by the motherships can appear. Exception, if the motherships are at a base, the base's mobile weapons platforms would operate normally.

(S8.222) WYN ships operating inside the WYN Cluster add five to their command rating. This addition cannot produce a command rating higher than nine (but does not reduce a command rating of ten if any ship has such a rating). This represents the excellent WYN internal communications, monitoring, and surveillance system. WYN ships outside of the cluster have the command ratings on the Master Ship Chart. This rule is correct; the note on early editions of Annex #3 is incorrect.
(S8.223) LDR and Tholian ships operating inside their own territory have a command rating one point higher than shown on the Master Ship Chart; exception, ships with a command rating of ten are not increased. This represents the small area (and small fleet) involved and is used in lieu of command points (S8.24).
(S8.224) Some rules override command limits for certain ship types; see (E11.17) and (E12.16), and some tugs gain additional command capability from battle and carrier pods. See also (XS8.48).
(S8.225) The Jindarians have exceptions to some rules. See (R16.1F) and (R16.FB).

(S8.23) FIGHTERS AND PFs: Fighters and PFs do not count against the command limit if their carrier/PFT is in the battle. If operating independently, each squadron (of twelve fighters, or of six heavy fighters, or of six bombers) or flotilla (of six PFs or six interceptors) counts as one "ship" for command purposes. Each group of six or fewer casual PFs counts as one "ship" for command rating purposes. Fighters and PFs on bases (or monitors) count that base (or monitor) as their carrier or PFT. PFLs and PFSs can only appear as part of a complete flotilla of up to six PFs, and only one of each can be in each flotilla. See also (K2.114), which applies.
(S8.231) Partial squadrons or flotillas are combined to determine totals. A battle force that includes a DWV with eight fighters (or four heavy fighters) counts as eight fighters. The battle force might also have two casual PFs (counting as the equivalent of two more fighters) a PFT (with a full flotilla of six PFs) and a CVS with a squadron of twelve fighters.
(S8.232) Heavy fighters can replace non-heavy fighters, but no carrier (except a starbase) can have more than one squadron of heavy fighters, and it cannot operate heavy fighters at all if it is a true PF tender. Heavy fighters can only be deployed in full squadrons, i.e., a CVS must replace all twelve of its fighters with heavy fighters; a CVA must replace one full squadron. Carriers that operate a squadron of less than twelve fighters must replace all their fighters with heavy fighters. In cases where the carrier has an odd number of fighters, the odd fighter is converted to an admin shuttle.

(S8.24) COMMAND POINTS: The *F&E* game system gives each empire a very limited number of "command points" which temporarily increase the command rating of some flagships. These are seldom used except in assaults on fixed positions (starbases, capitals, etc.). Players of patrol scenarios may give one (or both) sides a command point (i.e., allow them to have an extra ship beyond the command limits) to balance forces or simply to allow more ships to be used. LDR and Tholian forces never use command points; see (S8.223). Andromedan units also do not use command points, see (S8.221).

(S8.25) SCOUTS: One scout does not count against the command limits. If this one scout is also a carrier or PFT, its fighters and/or PFs will count against the command limit as independent squadrons/flotillas (S8.23). Drone bombardment ships with scout sensors are scouts and one could be used for the "free scout" slot, but drone bombardment ships do not count against the overall limit on scouts in (S8.35) and are instead counted against the limits of (S8.47).

(S8.26) OFF-MAP DRONE BOMBARDMENT as seen in *F&E* is not accounted for in *SFB*. Assume that whatever off-map bombardment ships are available are operating in "general support" and harassing enemy off-map forces. Rules to allow this form of support may be added later. Steve Petrick will try to develop playtest rules for this system, but the concept is complex and will require time.

(S8.27) BASES: Whenever a base is part of the battle force, it does not count against the command limits unless it is designated the flagship. Its fighters and PFs do not count against the fighter and PF limit in (S8.32). If there is more than one base in the battle force, only one of them can use this exemption. Up to six small/medium ground bases or "parking lots" (with no more than 24 fighters, counting heavy fighters/bombers/PFs as two fighters) count as one base if there is no other.
(S8.271) Andromedan bases may have some satellite ships present. In no case can the number of satellite ships, exclusive of mobile weapons platforms and sleds, exceed the capacity of a Dominion Transport (R10.45). This would represent replacement satellite ships delivered to a forward base waiting to be picked up by a mothership. Satellite ships in excess of the command rating of the base cannot participate in combat, even if other satellite ships are destroyed, but can only disengage. Satellite ships on an Andromedan mothership arriving to reinforce the base operate normally under (S8.221). Mobile weapon platforms operating from the hangars on a base count as part of the base.

(S8.28) BATTLE GROUPS: When fleets organized for combat, they would include several elements. One might be the "battle line" consisting of the dreadnoughts and heavy cruisers. Another element would usually be the carrier group. The flag element included the flagship and scouts. Special elements might be created to conduct a particular type of attack (commando, drone bombardment, or mauler).

But the rest of the fleet, what was originally the bulk of the fleet, would be the generic light cruisers, destroyers, and frigates that screened the flanks, closed the gaps, or slipped in at the last second to deliver the *coup de grace* to a stricken target. These ships were generally known as "the battle group" and, while they had many missions and did not comprise a single or integrated unit, they were administratively controlled by the senior regular line officer that did not have some special mission to oversee.
(S8.281) PURPOSE OF A BATTLE GROUP: A battle group consists of six ships but counts as only five for command rating purposes. It is, in essence, a way to replace five larger ships with six smaller ones. The forces on each side of a scenario may include one (and only one) battle group. The battle group does not have to operate together; it is simply an accounting procedure when calculating command limits.
(S8.282) COMPONENTS OF A BATTLE GROUP: Each battle group must consist of exactly six ships. No more than three of the ships in a battle group can be size class 3, and these may only be war cruisers or light cruisers with a movement cost of 0.75 or less. The other ships must be size class 4 ships.

(S8.2821) PROHIBITED: The following types of units **cannot** be included in a battle group: Bases (including small or medium ground bases), non-ship units, fast ships, true carriers [exception (S8.2826)], PF tenders, auxiliaries [exception (S8.2826)], convoys, police ships [exception (S8.2826)], survey ships, minesweepers, maulers, repair ships, tugs, LTTs, any ship carrying a tug pod (or cargo pack), separated pods or pallets, SFG ships, NCAs, heavy cruisers, battle cruisers, heavy battlecruisers; units of any size class other than 3 or 4; independent fighter or PF units; Romulan War Eagles and all variants thereof; sublight ships, separated hull sections except as noted below, Klingon D6 and all variants thereof; Tholian CPC; carrier escorts (including FCRs) [exception (S8.2826)].
(S8.2822) ALLOWED: The following types of units **can** be included in a battle group [assuming that the base hull type is allowed by (S8.2821)]: regular warships, scouts, commando ships, hybrid ships, drone bombardment ships, penal ships of size classes that qualify (D5J yes, D6J no); Romulan BattleHawks (count as size class 3) and Snipes (which are size class 4). A Klingon D5G could be in a battle group but NOT if carrying a pod. X-ships can be included in battle groups only if the entire battle group consists of X-ships. A separated B10 boom is the size class of a heavy cruiser and cannot be used in a battle group. Heavy war cruisers, e.g., Federation Medium Cruiser, Romulan GryphonHawk or HKR, etc., are eligible to serve in battlegroups as war cruisers. Battle frigates with a movement cost of 0.50 are eligible to serve in battlegroups as size-class 4 units. Battle frigates with a movement cost of 0.67 can serve in battlegroups, but are considered to be size-class 3 units when doing so, e.g., a battlegroup could have three F6s, but not four F6s, and not three D5s and an F6. Lyran and Neo-

Tholian heavy destroyers and heavy frigates are eligible to serve in battlegroups. Gorn Destroyer-Cruisers can serve in battlegroups as light/war cruisers, Gorn Destroyer-Battlecruisers are not eligible to serve in battlegroups. Neo-Tholian Medium Cruisers can serve in battlegroups, but see (E12.16) for limits on web castes in a Tholian force.

(S8.2823) EMPIRE: The ships of a battle group must come from empires which are allied with each other, but need not all be from the same empire. They could include Orion mercenaries.

(S8.2824) HDWs (including Lyran JGPs and Hydran LNHs) and Klingon F6s can be in battle groups, but count as size class 3 war cruisers (for purposes of battle groups) even though they are size class 4. Such units cannot be included if they are in a configuration (e.g., carrier) prohibited by (S8.2821).

(S8.2825) CONSORTS: Ships which are part of a battle group could be the required ships needed for a mauler (S8.43), or for a stasis ship (S8.42), or for a drone ship (S8.47), or for a size class 2 ship (S8.331).

(S8.2826) EXCEPTIONS: A number of special cases form exceptions to (S8.2821) and would allow otherwise prohibited ships from being used in battle groups.

WYN and LDR Auxiliaries can be used due to the nature of their operations, but only within their own home space.

LDR and Tholian police ships can be used in battle groups due to the nature of their operations, but only within their own home space.

Casual PFTs can be used while true PFTs cannot.

National Guard ships can be used unless they are of a type otherwise prohibited, such as PFTs. (There is nothing to exclude National Guard ships but some players wondered if that would be the case.)

Warp-capable booms and saucers (and Neo-Tholian command modules) can be used in an exception to (S8.52), but not rear hulls or other separated sections.

(S8.2827) OTHER CONDITIONS: Terrain has no effect on battle groups. Fleets began using battle groups about Y145, but some limited use may have been made as early as Y134. Exception: the Tholians and Seltorians were always able to use battle groups.

(S8.283) CARRIER BATTLE GROUPS are used only by the Federation and only in Y181 or after. These consist of two carriers, each with their required escorts, and count as one less than the total number of ships. The two carriers must operate within eight hexes of each other if they use this bonus. Only one of the carriers can be size class 2, but both might be size class 3 or size class 4. Carrier battle groups cannot be combined with normal battle groups, i.e., a Federation battle force cannot include both a battle group and a carrier battle group. The carrier battle group can include one additional allowed escort for each carrier (S8.315).

(S8.284) GUNLINE BATTLE GROUPS are used only by the ISC. These must meet all requirements of battle groups with two exceptions:

(S8.2841) Six ships count as four ships for command rating purposes.

(S8.2842) The six ships cannot include size class 3 ships, only size class 4, and must include exactly three of the destroyer or war destroyer type and exactly three of the frigate type. Destroyer and frigate carrier escorts are considered part of the gunline battle group.

(S8.2843) ISC police corvettes and heavy police ships can be included in gunline battle groups.

(S8.3) DEPLOYMENT PATTERNS

(S8.31) CARRIERS must have the escorts and fighters specified in their ship descriptions for the scenario date. If more than one escort/fighter group is available for that date, the player may use either of them. The most current data on the escorts and fighters used by various carriers is found in *Module G3A*.

(S8.311) Carrier escorts cannot be used except as part of a carrier group; carrier groups cannot include more escorts than are provided in the ship description; exception (S8.315). Some carriers are listed as having no escorts and may operate as such.

(S8.312) If the number of fighters is voluntarily reduced, remove a pro-rata portion of the stored supplies (drones, chaff, deck crews, etc.). Reduction of fighters is limited to 25% of the original fighter group, i.e., a carrier with twelve fighters could reduce this by three. Round fractions 0.4 down, round fractions of 0.5 up, thus a ship a ship with ten fighters could reduce its total by three, but a ship with nine fighters could only reduce its total by two. A casual carrier with two fighters could drop one.

(S8.313) Fighters cannot be installed on non-carriers without mutual consent. Note the Federation F-7 and Gorn G-7 are modified shuttles and not true fighters.

(S8.314) The Romulans can substitute different escorts of the same size class in their carrier groups, e.g., a KRV might substitute a SkyHawk-E for a K5D or K4D, but could not substitute an SPM into the group.

(S8.315) Players may adapt the "flexible group" rules from *F&E* (515.0). These can be summarized as follows: Carriers are divided into three types (size class 2, size class 3, and size class 4). Size class 2 carriers must have three escorts and can have four. Size class 3 carriers must have two escorts and can have three. Size class 4 carriers must have one escort and can have two. At least one escort must be size class 4, but otherwise, players may select any escorts available in the selected year so long as they are of the same empire. Non-carrier escorts cannot be used as carrier escorts in *SFB*.

(S8.316) Most survey ships are listed in their rules as sometimes carrying fighters. Players who take a survey ship as their allowed scout may equip it with some or all of the allowed fighters [see limit in (S8.32)]. Fast carriers operated without escorts while on deep raids. If fast carriers appear as the sole ships they need not have escorts, but they must be accompanied by their assigned escorts as any other carrier if appearing as part of a larger force. Fast carriers may, but are not required to, be accompanied by fast escorts if defined as being on a raid behind enemy lines. Fast carriers are currently limited to the Federation DVL and CVF; fast escorts are limited to the Federation FXE.

(S8.317) One or two carrier escorts (no more than one size class 3) could be assigned to protect tugs, FRDs, repair ships, PFTs, or convoys.

(S8.318) Escorts for carriers carrying heavy fighters cannot rearm those fighters (J10.11), as they have no ready racks for them. Such escorts will be equipped with ready racks able to service the single-space fighters that empire operates (as such an escort might be transferred to a carrier operating such fighters, or the carrier might be operating such fighters in addition to the heavy fighters), and will have the spare drones or plasma-Ds needed to support such fighters. These stores can be transferred to the carrier to be used by the heavy fighters during a scenario under (G25.0). Federation escorts and other units that use (R2.R5) can carry spare heavy fighters, (not including spare F-111s which can only be carried by their special FCFs) with one such fighter replacing two single space fighters for campaign purposes. The ready racks on Hydran carrier escorts are configured for the fighters the escort is operating; escorts cannot operate heavy fighters.

(S8.32) FIGHTER, BOMBER, AND PF LIMIT: Except as noted below, a battle force cannot have more than three squadrons of fighters (a total of 36 fighters). Each heavy fighter, each bomber, and each PF/Interceptor counts as two fighters against this limit. For purposes of this rule, one (and only one) carrier with an oversized squadron can be included within the limit of three squadrons (this allows a total of 48 fighters). Carriers considered to be carrying an oversized squadron have an "OS" in the Notes column of the Master Ship Chart. The fighters on a carrier with an oversized squadron still operate under the rules in (J4.46), i.e., the fighters on a carrier with an oversized squadron are two squadrons for all purposes except that they count as one squadron of twelve fighters against the fighter and PF limit. Note: *Module C4* and *Module C5* use these same limits. The Omega Octant (*Modules O1* through *O5*) has its own rules on the sizes of PF flotillas and fighters squadrons and in the Omega octant those rules are used; see (OR1.F3) and (OR1.PF3).

(S8.321) Hydran hybrid-ships (non-true-carriers) are exempt from this restriction. True carriers (those requiring escorts) must count their fighters against the overall limit. Hydran carrier escorts are treated as hybrids.

(S8.322) Other non-true-carrier ships which carry five or fewer fighters as part of their basic design, e.g., WYN CA, PBB, Heavy War Destroyers of most empires, are treated as Hydran hybrid ships.

(S8.323) The fighters of non-hybrid ships with six or more fighters included in their design count against the 36-fighter limit but do not take up a command slot if their carrier is in the battle.

(S8.324) Fighters appearing in a patrol scenario without their carrier may have any legal drone loadout, but pay half of the cost of the special drones on their rails, e.g., if the year is Y179 fast drones would be special, but would cost only a 1/2 a BPV point. Bombers can never operate from ships or space bases, but can only operate from a bomber base on a planet, moon, or asteroid. (Trust us, this rule will *never* be changed, however Jindarian asteroid ships form an exception and Stellar Shadow Journal #1 provided a non-historical auxiliary bomber carrier.) Bombers, whether heavy or medium, can only appear in a battle if they are based on a planet, or an asteroid, that is itself part of the battle. Scenario rules may specify that a given battle is taking place within the range of a bomber strike from bases on planets or asteroids not on the map. Players conducting a patrol scenario under the limits of (S8.0) may mutually agree that one or both players are within range of such a bomber base.

(S8.325) Fighters, bombers, PFs, and interceptors on a base may not count against this limit if the base is in the scenario; see (S8.27). Note that bombers generally can only operate from ground bases.

(S8.326) Up to 48 fighters (as above) could be used IF they are all based on a single ship AND that ship is in the battle fleet. In this case, one of the squadrons would count against the command limit; the other three would be considered part of their home ship.

(S8.327) FEDERATION THIRD WAY: If the battle is set in Y181 or later, a Federation force may have as many as 48 fighters (heavy fighters counting as two fighters) in four squadrons. This can be as many as 60 fighters if one of the carriers has an oversized squadron (i.e. two squadrons counting as one). This can only be done if the Federation is using a carrier battle group (S8.283).

Example: A Federation SCS group (A-20 Squadron, F-14 Squadron, F-18 squadron) in a CVBG with a Federation CVD group (two squadrons of F-18s).

(S8.328) MEGAPACKS: The appearance of megafighters, other than some exceptions listed below, is always going to be a fairly rare occurrence as the system was far harder to maintain than booster packs, which is why booster packs were produced in far larger numbers. Megapacks availability in patrol battles is governed by the following.

(S8.3281) Megapacks become generally available to the Klingons in Y177, and for all other empires in Y179.

(S8.3282) Prior to the year of general availability some megapacks might be available as prototypes (up to two years before the year of introduction). Historically, the Klingons did not use megapacks on their active fronts to conceal their development, but they might have done so. Had Klingon prototype megapacks been employed in Y175, other empires might have discovered their technology and employed their own earlier than was done historically. Due to the secrecy of the development, the Klingons did not share the technology with the Romulans or the Lyrans for fear of it being leaked. Ultimately the Klingons were correct about how easy it would be to copy the technology as the other empires had working prototypes almost immediately after encountering Klingon fighters with the system.

(S8.3283) No more than twelve fighter equivalents in any given scenario can be megafighters. Whether the fighters are operating from an NVH, or a BATS, or are bombers operating from a ground base, only twelve fighter equivalents can be equipped with megapacks. Note that this limit is not by type, i.e., you cannot have twelve fighters from the planet, and twelve fighters from the BATS, and twelve fighters from a carrier all 36 equipped with megapacks. Only twelve fighter equivalents (on each side) can be equipped with them. For this purpose a heavy fighter or bomber counts as two fighter equivalents. This limit is on the total number of units that can have megapacks.

(S8.3284) The overall limit is twelve megapacks on a side, and a player might choose to have one heavy bomber (based on the planet), six fighters (based on the orbiting base) and two heavy fighters on an NVH be equipped with megapacks.

(S8.3285) The Federation and the Hydrans form some exceptions to the above limits. There is an exception for the Federation in that twenty-four fighters can be equipped with megapacks if half (i.e., six F-111s counting as twelve fighters), or all, of them are F-111s. The Hydrans can operate up to twelve megafighters from a true carrier, and up to twelve additional megafighters (comprising all the fighters on a single ship) from a hybrid ship. Note specifically that this does not allow the Hydrans to have all of the fighters on an Iron Chancellor be megafighters. If the Hydran battleforce includes more than seven ships, and none is a true carrier, two hybrid ships can operate megafighters. If the Hydran battleforce is ten or more ships, a maximum of 36 fighters (twenty-four on hybrid ships and twelve on a true carrier) can be megafighters. Note that the limit is all of the fighters on one hybrid ship so the full 24 will not always be available (the usual maximum would be a Paladin and a Ranger at 21 fighters, but there is one Ragnar and it and a Paladin could use all 24).

(S8.3285) In all cases, players may make a wider use of megapacks in a given battle only if both (or all) players agree to do so. See the limits on the use of Megapacks in campaigns in the various campaign updates published in *Captain's Log*.

(S8.33) HEAVY SHIPS are under special restrictions.

(S8.331) There can be no more than one size class 2 ship (dreadnoughts, battleships, most CVAs and SCSs) in the fleet. Most size class 2 ships never appear with less than three other ships, two of them from the same empire as the size class 2 ship. For purposes of this rule a Seltorian force in the Tholian Home Galaxy can include two Battlewagons if attacking a Tholian base. Such a force may also include a dreadnought and/or a BCH, or two BCHs. Rules may appear at a later date detailing the use of Battlewagons in attacks on Tholian Dyson Spheres.

(S8.332) Battleships can be substituted for DNs if mutually agreed.

(S8.333) There can be no more than one BCH (or variant) in the fleet; it does not need a squadron of followers. This may be in addition to the size class 2 ship in (S8.331). For purposes of this rule, the Romulan KillerHawk, SuperHawk, RoyalHawk, and NovaHawk are BCHs. The Kzinti CVS is not a BCH variant. The Lyran BC is not a BCH variant, but is considered to be a BCH under this rule for all purposes.

(S8.334) Some size class 2 ships, designated DNLs and including light battleships like the Klingon B9, are designed for independent raids and might appear in a scenario by themselves, or be accompanied by other fast ships. If such ships have required escorts, e.g., the Federation DVL, the escorts should included.

(S8.34) PF TENDERS do not require escorts as carriers do, but carrier escorts may be assigned treating the PFT as the equivalent carrier type. See (S8.32) for a limit on PFs.
(S8.341) There can be only one PFT; exception: a second PFT could occupy the scout slot but its PFs would count against command limits (S8.25).
(S8.342) PFTs cannot be used without at least four PFs. Interceptors can be substituted for PFs up to three years after the owning empire gets PFs.
(S8.343) The Lyran DN and BCH and Romulan ROC are "PFTs without special sensors" and are treated as heavy ships (S8.33) with their PFs counted against the (S8.32) limit but not against the command limits. If fast patrol ships are not in use, Lyran DNs and BCHs can be used as normal heavy ships under (S8.25). Even if PFs are being used Lyran DNs and BCHs can be used without PFs if the Lyran player chooses to have other Lyran ships present operate his allowed PFs, or to simply not use PFs in that battle. The Romulan ROC cannot operate without PFs and the Romulans cannot use this ship unless it is carrying at least four PFs under this rule. Space Patrol Ships are treated under this rule, i.e., as heavy ships that operate without escorts. Note, however, that under (S8.34) escorts can be assigned to fast patrol ship tenders.
(S8.344) Two Romulan CHs count as one PFT slot (but two ships for command).
(S8.345) "Scout-Carriers" (with special sensors and six heavy fighters) count against the PFT limit.
(S8.346) Note that for purposes of this rule light PFTs (which includes the Federation) found in *Module R11* are PFTs. Light PFTs cannot be used without at least two PFs (the Federation ADW must have at least two F-111s). Interceptors can be substituted for PFs. A Romulan CH operating by itself is treated as a light PFT.

(S8.35) SCOUTS: There can be no more than one scout in the free scout slot (S8.25). Any ship with a diamond symbol ◆ on the Master Ship Chart is a scout; however, some special sub-types of scouts are handled otherwise by (S8.0). See (S8.365) for the Kzinti SSCS. See (S8.55) for Police Flagships. See (S8.47) for drone bombardment ships.
(S8.351) One PFT or a survey ship could be used in addition to the one allowed scout. This second scout could be a regular scout if the total battle force has eight or more actual ships. A PFT without special sensors would count as the one allowed PFT (S8.34) but would not count against the scout limits. Note that for purposes of this rule light PFTs (which includes the Federation ADW) found in *Module R11* are PFTs.
(S8.352) A PFS counts as a PF, not as a scout, unless the owner voluntarily agrees to consider it a scout, in which case it does not count against the limit in (S8.32).
(S8.353) An Orion, Barbarian, or WYN ship with a special sensor in one or more option boxes is a scout, but may also qualify as a PFT or DB. See (S8.49) for HDWs.
(S8.354) Drone bombardment ships with special sensors are not counted as scouts for purposes of this rule unless the owning player voluntarily agrees to do so.
(S8.355) Andromedans may have only one scout per mothership (S8.221); the mothership itself does not count against this limit.

(S8.36) LEADERS, COMMAND SHIPS: Leader variants (CWL, DWL, CC, DDL, etc.) are designed to lead squadrons of similar ships; there will never be a squadron consisting entirely of leader variants because this would mean that other squadrons had no leaders. See (S8.64), which prohibits "allied squadrons". See exception (S8.48). Exception: Romulan King Eagles are considered to be heavy cruisers, not command cruisers, for purposes of this rule. Note that this rule in prohibits creating forces composed entirely of "leader" or "command" variants in "design your own scenarios, but a campaign might result in circumstances that violate this rule.
(S8.361) A second (third, fourth, etc.) leader ship of any given type cannot be included unless all other such leaders are accompanied by two "combat variants" of the same basic hull type. For example, you may have one D5L if you wish, but if you want two of them, there must be two other D5s in the fleet (following the first D5L).

NCAs are CAs (and can be freely mixed with CAs in squadrons led by CCs), not leader versions of CWs. CCHs are CCs, not leader versions of CCs.
CLs and CWs can be mixed in squadrons.
DDs and DWs can be mixed in squadrons.
Fast cruisers are considered to be cruisers of the equivalent type and can fill out cruiser squadrons of their equivalent types (CF in CA squadron, CWF in CW or CL squadron).

Scouts, commando ships, minesweepers, escorts, survey ships, tugs/LTTs without battle or carrier pods, PFTs without heavy weapons, and other support ships are not "combat variants".

For purposes of this rule, heavy war cruisers are not considered to be the same basic hull type as war cruisers or light cruisers and cannot be used to fill out war cruiser or light cruiser squadrons. Heavy destroyers are not considered to be the same basic hull type as destroyers. Heavy frigates are not considered to be the same basic hull type as frigates.
(S8.362) No leader ship can be included unless all larger leaders have their supporting ships. For example, an F5L cannot be included in a fleet with a D7C and a D5L unless the D7C is accompanied by two other D7/6 combat ships and the D5L is accompanied by two combat D5 hulls. The ISC, being under separate PPD limits (E11.17), is exempt from (S8.362).
(S8.363) Dreadnoughts are not "leader" ships; however, see (S8.331). Carrier groups (S8.31) are separate from the leader/led provisions of (S8.36); they lead their escorts. The fleet flagship is exempt from the leader/led provisions of (S8.36) but could lead a squadron; the Klingon force in (S8.362) could have a D7C as a flagship.
(S8.364) The Federation uses the "L" designator for plasma-armed ships. These are not "leaders" within the context of this rule.
(S8.365) The Kzinti Super Space Control Ship (R5.24) and any similar units published in future simultaneously counts against the limits of PFTs, carriers, and size class 2 ships.
(S8.366) Jindarian asteroid ships may serve as fleet flagships but are otherwise not included in the "squadron" organization concept.
(S8.367) A standard (non-leader) warship can lead a squadron including standard (non-leader) versions of the next smaller class. For example:

FFs (but not FFLs) can lead police squadrons.
DDs or DWs (but not DDLs or DWLs) can lead frigate squadrons.
CL/CWs (but not leader versions thereof) can lead DD/DW squadrons.
CA/NCAs (but not CCs or CCHs) can lead CW/CL squadrons.

For purposes of this rule, heavy war cruisers can lead squadrons of light cruisers, or war cruisers, or destroyers, or war destroyers. Heavy destroyers can lead squadrons of destroyers or war destroyers. Heavy frigates can lead squadrons of frigates or police ships.
(S8.368) Hydran fusion and hellbore ships can be mixed in squadrons within a given class. A war cruiser squadron could include a Horseman, Traveler, Mongol, and/or Tartar. Similarly, the Romulans can mix squadrons of Kestrel, Hawk, and Eagle series ships.

(S8.4) SPECIAL SHIP TYPES

(S8.41) CONJECTURAL SHIPS AND UNBUILT VARIANTS: There are various ships in *SFB* that do not exist for various reasons.
(S8.411) CONJECTURAL SHIPS cannot be used unless agreed otherwise. This is generally a rather straightforward decision except in one case: Federation PFs and their PFTs. Some groups insist that the Federation cannot be competitive without them; some insist that, since they were not historically built, the Federation player must somehow discern the secret of being successful without them. Each group will have to decide this for itself, but the Federation PF decision should be made separately from the overall conjectural, and impossible (S8.44), ships decisions. Conjectural ships are listed as CNJ in the warship status column.
(S8.412) UNBUILT VARIANTS: These ships, marked as UNV in the warship status column of the Master Ship Chart could have been built, but for various reasons were not. These ships can only be used in a battle force if the players agree to the use of unbuilt variant ships.

(S8.42) STASIS FIELD SHIPS: If more than one SFG ship is included in the fleet, each additional SFG ship after the first incurs a 100-point penalty (assessed against the BPV limit for buying the fleet; this is not added to the BPV of the ship for subsequent victory conditions). SFG ships never appear alone; they require two accompanying ships just like maulers (S8.43). See (S8.65).

(S8.43) MAULERS: No more than one mauler can be included in the fleet; exception Andromedans (S8.221). Maulers never appear alone; there must be two non-mauler ships (or equivalents) in a battle force including a mauler; exception Andromedans (S8.221). These non-maulers may also be fulfilling other roles and requirements (flagship, carrier, escorts, squadron leader, squadron follower, scout, etc.). See (S8.65).

(S8.44) LIMITED PRODUCTION, UNIQUE, OR IMPOSSIBLE SHIPS: These cannot be used unless mutually agreed beforehand. This is actually a series of decisions, rather than only one. Each such ship must be considered separately, although such a decision is made only when one player asks to use that ship. Further, how many such ships (or flotillas) can be used must be decided. This could be one ship, as many as you want, or as many as were built. This rule does not apply to size class 2 ships, which are covered by (S8.33).
(S8.441) LIMITED PRODUCTION SHIPS are listed as such in the warship status column of the Master Ship Chart. In some cases there was only one, listed as LPU in the warship status column, and sometimes two, listed as LP2 in the warship status column. There are also ships intended for mass production, but of which only one was built, listed as RPU in the warship status column, or only two were built, listed as RP2 in the warship status column. When creating a battle force these limits should be applied if the battle force is to be historical, but the players can agree not to be bound by these limits, creating a non-historical larger deployment of these ships.
(S8.442) UNIQUE SHIPS are ships of which only one, in some cases two, was ever built (see the ship description), and thus only one should appear in any historical battle force. These ships are listed a UNQ in the warship status column of the Master Ship Chart. Players might agree before hand to allow more of a ship design to be used than was historical.
(S8.443) IMPOSSIBLE SHIPS are designs that while desirable were (as the name says) not possible to actually construct. This was usually a result of some clash of the technologies involved. The best example of this design is the Advanced Technology Light Dreadnought. Impossible ships are labeled IMP in the warship status column of the Master Ship Chart, and can only appear in a battle force if the players have agreed to their use.
(S8.444) REGULAR PRODUCTION LIMITED SHIPS labeled RPL in the warship status column of the Master Ship Chart, and can appear in a battle force, but their ship descriptions should be referenced to determine their numbers. In most cases only one such ship should be used in any given battle force unless the players agree to allow more.

(S8.45) MINESWEEPERS cannot be used unless there is a pre-established minefield in the scenario or (in a case of limited knowledge of the target) a target which could plausibly be defended by a minefield. In such a scenario, the defender could include a minelayer or minesweeper (not both).

(S8.46) TUGS: No more than one tug (including LTTs) can be included. This does not count tugs carrying cargo pods (or self-defense pods, but no other type) in a scenario where the mission is to deliver cargo. This does not count tugs carrying troop transport pods (or self-defense pods, or hangar pods with GAS shuttles instead of fighters, but no other type) in a scenario where the objective is to deliver troops.

(S8.47) DRONE SHIPS: Drone bombardment ships are available in limited numbers. No more than one drone variant can be included in each group of three ships, and no fleet can include more than three drone bombardment ships. (For this purpose, any bombardment ship with a "DB" note on the MSC, as well as any variant which replaces all of the base-hull's heavy weapons with drone racks, is a drone ship.) The three ships do not have to be the same type, e.g., two FFs and a CD. DB ships with special sensors do not count against the scout limit unless the owning player voluntarily agrees to do so (in which case they could occupy the "free scout" slot, but would still count against the limit of three drone bombardment ships).

(S8.48) X-SHIPS cannot be used unless mutually agreed otherwise. If used, there will be a maximum of one in a fleet of four-to-seven ships, two (of different size classes) in a fleet of eight or more ships. Alternatively, the entire battle force may consist of X-ships under the provisions of (XS8.48), or the battle force might include a squadron of three or four X-ships. Empires without a non-command heavy X-cruiser may substitute CCX ships for CAX ships in a squadron of three heavy X-cruisers. One X-ship may serve as a leader of a non-X Squadron under the limits of (S8.36).
(S8.481) Partial X refits (XR0.0) may be used if the players agree. These are under the restrictions of (XR8.0). Players may agree to use XP refits in addition to the allowed limits on X-ships provided in (S8.48), e.g., in Y188 all of the ships might have partial X-refits and an X-squadron is present, or use them in place of pure X-ships, i.e., only XP refits are allowed.

(S8.49) HEAVY WAR DESTROYERS (and their near-sisters such as the Hydran Heavy Lancer and Lyran JagdPanther) are unusual ship types found in *Module R6*. Generally speaking, they can replace CWs in combat squadrons. They can be used as fleet flagships since they could, in theory, have command ratings as high as 10 (G33.55).

When fitted for special missions (carrier, scout, commando ship, etc.) they occupy the relevant "slot" in the limits as listed below:

- An HDW with one or more special sensors is a scout unless it otherwise qualifies as a PFT.
- An HDW qualified under (G33.44) or with three barracks counts as a commando ship.
- An HDW with eight or more single-space (or four double-space) fighters is a true carrier (G33.42) and must have escorts. HDWs with only their original two fighters are treated as hybrids under (S8.322); HDWs with three-to-seven fighters are treated as non-true carriers under (S8.323). [The Hydran HDW and LNH are considered Hybrids (S8.321) with up to six fighters, non-hybrids (S8.322) with seven-to-eleven fighters, and true carriers (S8.321) requiring escorts with twelve or more fighters.]
- An HDW can be substituted for any CW-sized carrier escort if it qualifies under (G33.43).
- An HDW fitted as per (G33.41) can be a survey ship.
- An HDW fitted as per (G33.45) is a minesweeper.
- An HDW fitted as per (G33.46) is a PFT.
- An HDW fitted as per (G33.47) counts as a repair ship.

(S8.5) LIMITED DUTY SHIPS

These are ships which, due to their slow speed or special characteristics, simply never appear in patrol type battles. They may appear if both sides agree to their use.

(S8.51) NAVAL AUXILIARIES, such as auxiliary carriers, cruisers, PFTs, and troopships, cannot be used. These ships are too slow to take part in actions where the objective is not specifically assigned ahead of time. Auxiliaries can be used if the force is defending a fixed installation, FRD, or convoy, or is attacking a fixed installation.

(S8.52) SEPARATED SECTIONS (e.g., detached booms and saucers) cannot be used. Separated pods can only be used by forces that begin the scenario defending a fixed point on the map.
(S8.521) Neo-Tholian ships are capable of separating and combining during a scenario. They cannot begin a scenario separated or be purchased as individual units unless the players agree beforehand to allow this. A campaign might result in a Neo-Tholian command module, or rear hull, which survived the destruction of the other unit and has to participate in a subsequent scenario.

(S8.53) MONITORS cannot be used unless the force is defending a planet or other fixed installation. No more than one monitor can be used in any given force. The scenario date will determine what pallets are available.
(S8.531) Andormedan Immobilator (R11.66) and Concretor (R11.65) motherships are treated as monitors.

(S8.54) CARGO SHIPS (including freighters, cargo ships, cargo pods, cargo packs, cargo pallets, and cargo PFs) cannot be included unless the mission of the scenario is to deliver cargo (or is a convoy, etc.). Players may, when designing the scenario, choose to allow the fleet assigned to deliver cargo an extra allowance for such ships, or may require it to spend a part of the normal allowance for them.
(S8.541) All cargo ships except Tugs, Light Tactical Transports, Fast Carrier Resupply Ships, and Strategic Transports are considered to be one ship for purposes of determining command rating requirements. However, the total number of ships cannot exceed the command rating of the flagship (S8.21) of the battle force, and no more than half the cargo ships can be large freighters and only one can be a huge freighter.
(S8.542) Armed Freighters and Q-ships are treated as auxiliaries (S8.51) and count against the command rating of the flagship as individual ships.

(S8.55) POLICE SHIPS can be substituted for frigates.
(S8.551) A squadron of police ships could be led by a frigate or by a police flagship. A police flagship cannot lead a non-police squadron. A police flagship counts as a scout unless it is leading a squadron of at least two other police ships of frigate size or smaller.
(S8.552) The handful of police carriers are treated as carriers with their own escort groups and are not covered by the squadron concept.
(S8.553) Heavy police ships such as the LDR and Lyran Military Police ship are still considered to be police ships.
(S8.554) Klingon police variants of the E4, F5, D5, and other standard warships are treated as those warships, not as police ships.

(S8.56) CAPTURED AND CONVERTED SHIPS: These are treated as an equivalent warship of the currently-owning empire. The Tholian TK5 counts as a DD, the Hydran D7H counts as a CA, and the Orion OK6 counts as a CA. These will still be under the limits of (S8.44).

(S8.57) FAST SHIPS: These ships (designated by an "F" in the notes column of the Master Ship Chart) were relatively rare and intended for use raiding behind enemy lines. They were also used to intercept fast ships raiding behind their own lines. No battle force can ever include more than one such ship.

(S8.58) SKIFFs AND MODULAR CUTTERS: These units will generally only be found in battles taking place near their ground bases (which might be in an asteroid field). They cannot be part of a battle in deep space (away from their base). This includes Stryker Skiffs, except that these might appear as part of an attack on an enemy planet.

(S8.6) MIXED ALLIED FORCES

In various wartime situations, fleets may consist of ships from two or more allied empires. This is under some conditions and restrictions.

(S8.61) THE FLAGSHIP of the fleet must come from the empire that is providing the most ships (or equivalents, i.e., twelve fighters or six heavy fighters/PFs/interceptors). This count is based on ships and ship equivalents, and as such a frigate carries the same weight as a battlecruiser.
(S8.611) Bombers can appear in a battle force if it is near their base (S8.324), the players must agree this is so before the battle forces are created. Otherwise bombers may be part of planetary defenses. Six bombers, whether medium or heavy, count as one ship equivalent just as PFs or heavy fighters do.
(S8.612) If the ships and equivalents of a battle force are exactly equal, i.e. two empires each have six ships or equivalents, either may provide the flagship. This also applies in cases where ships or equivalents from three, or four, or more, allies are present.

(S8.62) CARRIERS may not be escorted by foreign ships or carry foreign fighters. Note that carriers can, within various practical limits, provide "service" to foreign fighters during a scenario (although they may not have the type of ammunition the fighter needs). See (J4.895), (J4.8963), (J4.891), and (J4.8962) for some examples.

Note that Lyran and Klingon carriers (U1.25) can exchange fighters, and Klingon and Lyran carriers and escorts can service each other's fighters. There may be some restrictions if the fighters are of different types (e.g., a Lyran carrier loaded with Z-Vs trying to service Klingon Z-Ys) but it can be done as if the fighters were of the same empire.

Note that Orions and WYNs steal fighters from anyone (and buy a few now and then) and might well have a carrier configured to carry a mixed bag of fighters. In such case, each fighter box must be numbered and recorded as to the type of ready rack that fighter box has (i.e., the type of fighter it is designed to service). The fighters would all be considered to be of the "WYN" empire for purposes of being on a WYN carrier, but could be serviced on allied carriers under the various restrictions (e.g., available weapons).

(S8.63) PFTs may not carry foreign PFs, but may dock them, as a normal PF, during a scenario to transfer crew or cargo. PF flotillas may not contain PFs from different empires. [The one historical incident where this occurred resulted from a unique situation as the units had been trained together and launched their mission from a starbase able to refit the ships as needed.] Note that the WYNs use PFs stolen, bought, or copied from many empires and treat these all as being of their own empire, hence, they may operate what would appear to be mixed flotillas. PFs can use the "tow bar" (K1.25) on any other PF.

(S8.64) SQUADRON COMMANDS must be complete within each empire. Lyran CWLs cannot command Klingon D5s, and a Romulan SkyHawk cannot count as filling out the first Klingon F5 squadron to allow a second F5L to be included.

(S8.65) ACCOMPANYING SHIPS (such as the two that must be with a mauler or SFG ship) can be from Allied empires.

(S8.66) ANDROMEDAN: If Andromedans are allied to a Galactic empire in a given battle the following rules apply:
(S8.661) They use the Command ratings listed in Annex #3, e.g., a Dominator and its six satellite ships counts as seven ships.
(S8.662) Satellite ships are counted under the command limits and are not treated as "fighter squadrons" or "PF flotillas".
(S8.663) Andromedan Motherships and other DisDev equipped units are still limited by (S8.221), i.e., there could be two Conquistadors with two Cobras, but there could not be two Conquistadors with two Cobras and a Python.
(S8.664) An Andromedan size class 2 unit counts as the one such unit allowed in (S8.331). If there are two size class 2 Andromedan units, one of these counts as the one allowed size class 2 unit and the other as the one allowed BCH.

NOTE: Ship classifications between various empires are "vague" at best. Klingon E4 "escorts" are not carrier escorts, and a Gorn "heavy destroyer" is in fact a war cruiser. A Klingon D6 "battlecruiser" is a heavy cruiser while a Federation Battlecruiser is in fact a "heavy battlecruiser". There is no real way to write a single-sentence rule that "defines" what a given ship is, and no real way to add such a listing to the MSC or to the ship descriptions. Players might consult *F&E* annex (755.0) for general guidance, or just use common sense.

END OF (S0.0) *CAPTAIN'S MASTER RULEBOOK*

(W0.0) MINIATURES RULES

(W1.0) GENERAL RULES

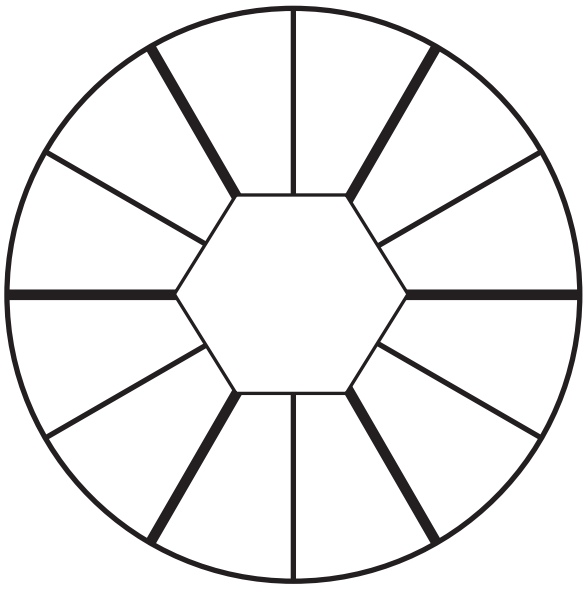
STAR FLEET BATTLES can be played with the 1/2" counters provided or with "miniature" spaceships (plastic or metal models a few inches long). The *STAR FLEET 2400* miniatures are specially commissioned in 1/3788 scale for use with this game.

These rules are primarily intended to leave the rules from *STAR FLEET BATTLES* intact, but to adapt them to the use of miniatures. These miniatures can be used in one of two ways. The easiest is to use large hex maps (at least 1.25" hexes) to accommodate the miniatures. If you choose this system, you can dispense with the remainder of these rules and simply play *STAR FLEET BATTLES* on a larger table. (Such maps are included in *Module W.*)

The alternative is to use a blank tabletop. (Floors are workable but care must be taken to avoid stepping on ships.) Such a surface does not have a hex grid. There are two major changes to be made, both of which result from discarding the hex field. Ship location, and hence movement, is based on a point (the center of the stand) and a heading (the direction that the miniature ship is pointing), rather than on a hex and a facing. Shields and weapons firing arcs remain the same in relation to the ship (60° arcs), but are now based on the actual heading of the ship, and not the arbitrary hex grid.

Each ship (or other unit) should be identified as an individual for reference to its respective SSD sheet and energy allocation form. This can be done by attaching a small piece of paper with a name or number, or by painting the specific name or number directly on the ship or the base/stand. Mount each ship on its stand with a flat edge to the front and pointed corners to each side. The "heading" of the ship is considered to be straight ahead.

Use one of the round "shield and firing arc diagrams" (included in *Module W)* placed under the stand to help you determine the shield and firing arcs.



Special "shield and firing arc diagrams" are provided. One provides the special firing arcs for Klingon nose and wing phasers; another covers maulers. Each set of phasers (nose, left wing, right wing) are in a separate ring, so be sure which phasers you are firing.

(W2.0) MOVEMENT

For purposes of movement, the hex grid system is replaced by an unmarked surface, a series of turn gauges, and a ruler or measuring tape. Eliminating the hex grid immediately complicates movement, but the advantages of a "free" movement system may equal or even outweigh its disadvantages. This is a matter of personal taste (some players are "lost" without the regularity of hexes) and what you are used to.

Players will find an entirely new set of tactics are required. On a hex grid, some ships must "wiggle" a full 60° to bring all of their weapons to bear. With the "free" movement of miniatures, a turn of a few degrees may be enough. This is obviously more realistic, and obviously more trouble.

You will need several items of game equipment to use the miniatures movement system. These include a set of turn gauges (which are included; please cut them out carefully) and a ruler or measuring tape. You may also find use for a long straightedge or a few feet of string or thread.

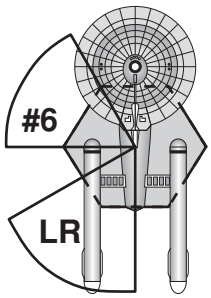
You must decide what scale you will use for your miniatures gaming; that is, you must decide how many inches of your clear table will be equal to 10,000 kilometers (one hex of the boardgame). A scale equal to that of the miniatures (1/3788) is out of the question, since each hex would be over a mile and a half across. (Putting a 3-inch Federation CA in a 1.5-mile hex does give you some idea of the incredible scale of space combat.) To use the *STAR FLEET 2400* miniatures, a minimum scale of 1" = 10,000 kilometers = one hex is necessary. Thus, to represent the area of the standard boardgame map, would take an area about 32x38" (about the size of a dinner table). In order for each increment to completely hold one ship, a scale of 3.5" is necessary; but that makes the playing area of the standard hex map about 9x11 feet. For several ships to occupy the same "hex," a scale of 6" or more is necessary, but obviously unwieldy. For purposes of these rules, a scale of 1" = 10,000 kilometers = one hex will be assumed. (A scale of 2" per hex would take the best part of a pingpong table.) Should the battle begin to "wander" off of the side of the table, use the same floating map procedures as in the boardgame.

A movement gauge (provided) is made from a simple straight piece of cardstock marked off at 1" intervals. To move, simply align the gauge line on the pointed side corners of the black miniatures stand base with one of the marks on the movement gauge or one of the turn gauges. Then, keeping the gauge in place, move the ship so that the gauge line aligns with the next mark on the gauge.

When turning, select the turn gauge equal to your turn mode at your current speed. Align one of the marks on its outer radius (the heavy black line) with the side of your ship (the side corner of the black plastic stand base), and then, holding the gauge in place, move the ship along the gauge so that this shield boundary line aligns with the next mark. Note that the "turn mode" function in the boardgame is used to approximate circles of different sizes with hexagons of different sizes. Since miniatures use true circles, it is not necessary to move any "straight" increments between successive "turn" increments (although you may if you wish). You may use a larger turn gauge than required, but never a smaller one. When moving or turning, your "true" location is the exact center of the stand.

Turn gauges for the 1" and 2" scales are provided with these rules. The turn gauges could be enlarged or reduced, so that a different scale can be used. Most print shops can provide this service for a nominal fee.

(W3.0) COMBAT



To determine which weapons bear on the target, run a string or straightedge between the stand posts from the firing ship to the target ship, and observe which firing and shield arcs the line crosses. Remember to use the center of the base, not the weapon on the miniature. To determine range, measure the distance between the stand posts of each ship.

If using a tape measure, you will have to divide the inches by your scale to convert to increments. Round fractions of .500 up, and those of .499 down. Players may find it easier to make a special "range stick" marked directly in their increments or to find an old fashioned yardstick. Either method will give you the range in increments, which can be entered on the game's various combat charts directly.

Shuttles docking at their home ship and seeking-weapons reaching their targets must be able to actually reach the center of the target ship's stand.

(W4.0) SMALL UNITS

Shuttles, fighters, drones, plasma torpedoes, etc., operate using the same principles as ships. Until miniatures for seeking-weapons and shuttles are made available, players will have to make do with substitutes, counters being suitable and immediately available.

(W5.0) TERRAIN

Many players have shown great creativity in creating terrain for use with miniatures. Styrofoam balls can be used for planets, as could paper cut-outs. Some players have found plastic toys which are a good match for some of the monsters.

STARLINE 2400 MINIATURES

Many years ago, expert sculptor Richard Kerr created the first of the *Starline 2200* series miniatures for the second incarnation of the original publisher. In the early 1990s, a later incarnation of that company reused the original molds to put some of the *Starline 2200* miniatures back in production; these were called the "*Starline 2300 Limited Edition Series*".

Both *Starline 2200* and *2300* included the famous "Zocchi Plastic Ships" (i.e., the Federation Cruiser, Dreadnought, Scout, Destroyer, and Tug) produced under license from Franz Joseph Designs.

ADB. Inc., began releasing entirely new *Starline 2400* miniatures in 1999, and began returning some of the original *2200/2300* series ships to production as part of that product line. The Zocchi Plastic Ships were included. In the fall of 2000, ADB Inc., began full-scale production of both new and retooled miniatures, all under the title of *Starline 2400*.

The following miniatures are available or scheduled for production. Not all of them are available in stores.

FEDERATION: The War Destroyer was released in 1999 as a new ship. The Zocchi Plastic Cruiser, Dreadnought, Scout, Destroyer, and Tug also became available again as *Federation Fleet Box #2*. In the summer of 2000, copies of the "old CVA" design (which was re-introduced to the game system in Stellar Shadows Journal #1) became available. The *Federation Fleet Box* includes the Battlecruiser, New Light Cruiser, Old Light Cruiser, Frigate, and New Heavy Cruiser. It should be noted that the fragile sensor dishes of the *2200* series are now cast as part of the hull and less likely to break. Additional Federation ships released through the summer of 2004 include the HDW, FFB, and Battleship.

KLINGON: The C7 Heavy Battlecruiser was released in 1999. The *Klingon Fleet Box* includes the C9 Dreadnought, T7 Tug, D7 Battlecruiser (a new one-piece design), D5 War Cruiser (another new one-piece design), and F5 Frigate (an entirely new design in the proper scale). A second box includes the B10, E7, F6, E5, and E4. Also available are the D7V and D6M.

ROMULAN: The *Romulan Fleet Box* includes the Condor, FireHawk, SparrowHawk, SeaHawk, and SkyHawk. A second fleet box includes the older Vulture, War Eagle, Battle Hawk, Falcon, and Snipe.

KZINTIS: ADB Inc. released the entirely new Kzinti CM in 1999 and a *Kzinti Fleet Box* of five Kzinti ships (the original Tug, a revised DN, an entirely new DW, and a battle cruiser and frigate redesigned to include fewer pieces) in 2001. We released a CL/CVE and a DD in early 2002.

GORNS: ADB Inc. released the entirely new BDD in 1999, along with the BDX. (This resulted from the sculptor, Behrle Hubback, offering us two different designs and we liked them both.) More Gorns retooled from the original 2200 designs were released in January in the *Gorn Fleet Box*. This included:

A new DN design (modified as a one-piece unit)

A new BC design (a one-piece unit) easily modified by the players into the CM design.

Two copies of a new CL design (a one-piece unit) easily modified by the players into a Heavy Destroyer.

A pod to convert a CL into a Tug or an HDD into an HDT.

A new BCH was released in summer 2004.

THOLIANS: Six ships (PC, CA, new CW, DN, NDN, and NCA) appeared in the *Tholian Fleet Box* in 2001.

ORIONS: The *Orion Fleet box* includes the original 2200 series CA, CR, and SAL, plus the new BR, LR, and BC.

HYDRANS: The *Hydran Fleet Box* includes a Paladin, Ranger, Horseman, Lancer, Hunter, and War Destroyer (along with a cargo pallet that could be used by either cruiser).

ANDROMEDANS: The *Andromedan Fleet Box* includes the original 2200 series Intruder, Conquistador, Python, and Cobra as well as the stunning new Dominator.

LYRAN: The *Lyran Fleet Box* includes original 2200 series included the DN, CA, DW, and FF, plus the new CW and DD as well as the CL, BC, and STT.

ISC: The original 2200 series included the DN, CA, DD, and FF. These, along with the much wanted CL and Tug, are now available.

OTHERS: We have sculptors gearing up to produce WYN Fish Ships, Seltorians, and Omega sector ships. The original BATS and Starbase will be retooled into one-piece units. The old freighters will be retooled and put back into production.

END OF (W0.0) *CAPTAIN'S MASTER RULEBOOK*

(X0.0) IMPROVED TECHNOLOGY

During the final years of the General War, many empires began to experiment with new advances in technology which increased the power and capabilities of starships. During the period Y180-185, each empire produced a few "X-ships" which included various aspects of this advanced technology. During the Andromedan Invasion, more of these ships were built, but the total number remained low.

X-ships produced during the period Y180-205 were all conversions of existing designs. Some were converted from ships in service; others were converted during construction. These were known as "First-Generation X-ship designs" or sometimes as "up-rated" or "improved technology" designs (as indeed the standard ships were known when they first appeared to replace even earlier designs).

After Y205, many ships were built from new designs using even more advanced technology. These were known as "Second-Generation" designs and are not included in *Module X1*. They may appear in a later product. *Module X2* might include more First-Generation material.

The rules in this section reflect the advanced capabilities of the First-Generation X-ships. Anything not specifically changed here works exactly as it would on a normal non-X-ship. Players can ignore X-ships entirely if they wish.

X-ships have appeared in playtest and draft form in many places before this product. The rules and ships in *Module X1* supersede *all* earlier publication of X-ship material (including that in *Advanced Missions*, *Module P2*, *Module C3*, *Nexus #18*, various issues of *Captain's Log*, and elsewhere).

Any rule not explicitly changed below is unchanged from the original version in *Module X1*. Note specifically that phasers still have "double capacitors".

(XA0.0) GENERAL RULES

(XA3.14) RULE NUMBERS: The rules for X-ships modify the existing rules. Whenever a modification is required, the rule number from the non-X-rules is listed, with an "X" in front of it to indicate that this is the X-modification to the rules. If no X-rule is provided, the non-X rule remains in force. In some cases, entirely new rules have been created for use with X-ships, and the X-rule, for example (XE2.42), has no non-X corollary.

(XA3.3) BACKGROUND: X-ships appeared in Y181 and remained in service from that date.

(XB0.0) HOW TO PLAY THE GAME

(XB1.0) There is no change from the basic game rules presented under (B0.0) created by the X-ship rules.

(XC0.0) MOVEMENT

(XC1.0) GENERAL X-MOVEMENT RULES
(XC1.313-2) ORDER OF PRECEDENCE:

1. Monsters move.
1A. Change in Temporal Elevation (G31.152) except seeking weapons.
2A. Non-nimble ships move.
2B. Non-nimble X-ships move.
3A. Nimble ships move (C11.0).
3B. Nimble X-ships move.
4A. Fighters and shuttles (including those used as seeking weapons) move. If a shuttle is a seeking weapon and is targeted on another seeking weapon, the owning player has the option of declaring this fact (during the resolution of the order of precedence), in which case the shuttle moves in step 5.
4B. X-fighters and X-MRS shuttles move (unless they are seeking weapons).
5. Seeking weapons move or change Temporal Elevator (G31.0) levels. (Note that impact is announced but not resolved until after base rotation and Tactical Maneuvers. This allows Tactical Maneuvers to be used to turn a stronger shield toward an incoming seeking weapon. The weapon hits the shield *after* the rotation or Tactical Maneuver) If one seeking weapon is targeted on another seeking weapon, the owner of the weapon so targeted may announce this fact (during the resolution of the order of precedence); weapons known to be targeted on other seeking weapons move after their targets have moved.
6. Bases rotate (C3.7).
7A. Ships make Tactical Maneuvers (C5.0).
7B. X-ships make Tactical Maneuvers.
8A. Nimble ships make Tactical Maneuvers.
8B. Nimble X-ships make Tactical Maneuvers.
9A. Fighters make Tactical Maneuvers. Non-fighter shuttles cannot do Tactical Maneuvers; see (C5.43).
9B. X-fighters make Tactical Maneuvers.
10. Computer-controlled ships move (G11.0).

As before, units perform HETs at the point of movement.

NOTE: This rule is not used simultaneously with (XC1.32); only one of these rules can be used in any given scenario. (XC1.32) is used ONLY by groups that use plotted movement in all of their *SFB* gaming.

(XC1.32) PLOTTED MOVEMENT: In scenarios between X-ships and non-X-ships where players are already using plotted movement in their non-X gaming, X-ships use Free Movement. This reflects the maneuverability of X-ships.

(XC1.322) PURSUIT PLOTTING: Non-X-ships cannot use Pursuit Plotting, Evasion Plotting, or Station Keeping Plotting against an X-ship, but must plot their movement as per (XC1.32), unless using (XC1.313-2).

(XC2.0) ENERGY COST OF X-MOVEMENT
(XC2.21) ACCELERATION: X-ships may increase their practical speed to triple the previous turn's speed or by fifteen, whichever is greater. Freighters and auxiliaries with X-technology use their standard non-X acceleration limits.

(XC3.0) TURN MODES
(XC3.64) X-ships have a +1 bonus to the die roll for a quick reverse. Nimble X-ships have a +2 bonus for this purpose.

(XC5.0) TACTICAL MANEUVERS BY X-SHIPS
(XC5.224) X-ships can make up to six tactical warp maneuvers in each turn. Use the system in (C5.233).
(XC5.532) WARP: X-ships "earn" (or earn the right to buy with reserve warp power) Tactical Maneuvers on the Speed 6 column as per (C5.233), but can make the first such maneuver three impulses after coming to a halt.

(XC6.0) HIGH ENERGY TURNS BY X-SHIPS
(XC6.52) X-ships have two first-use HET bonuses.
(XC6.521) Nimble X-ships and Orion Pirate X-ships have three first-use HET bonuses.
(XC6.522) X-freighters, X-auxiliaries, X-Q-ships, and warp-powered X-booms and X-saucers all have one first-use HET bonus. Warp-powered X-booms and X-saucers have this bonus even if the original ship used all of its HET bonuses before separation. This bonus cannot be used unless the boom or saucer has separated from the main hull.

(XC7.23) DISENGAGEMENT: X-ships with active fire control count as scouts for this purpose, i.e., a ship attempting to disengage from a scenario involving an enemy X-ship must be more than 75 hexes from that ship in order to have successfully disengaged by distance.

A ship attempting to disengage from a scenario involving an enemy X-scout with operating unblinded special sensors must be more than 100 hexes from that ship in order to have successfully disengaged by distance. See (G24.322).

(XC8.0) EMERGENCY DECELERATION
(XC8.4) POST DECELERATION PERIOD for X-ships lasts only twelve impulses. Note specifically that the delay under (C6.54) is NOT affected by this rule.

(XC9.0) POSITRON FLYWHEEL: X-ships cannot use the positron flywheel. No one knows why, but they blow up if they try.

(XC12.0) SPEED CHANGES BY X-SHIPS
(XC12.312) X-ships can change speed every six impulses (as a nimble ship can, but reflecting improved power management rather than actual nimbleness). There is no additional benefit if the X-ship is itself nimble.
(XC12.352) X-ships may accelerate twelve impulses after coming to a halt by emergency deceleration; see (XC8.4).
(XC12.37) REVERSING DIRECTION: X-ships may begin moving in reverse six impulses after coming to a halt.
(XC12.371) The highest speed in the previous six impulses is used to determine the braking cost.

(XC13.0) DOCKING BY X-SHIPS
(XC13.949) If the X-ship is cloaking both units, both units will benefit from the two points of ECM generated by the X-cloak (XG13.44), even if the other unit is non-X.

(XC14.0) X-PINWHEELS
(XC14.211) Non-X ships cannot pinwheel with X-ships.

(XD0.0) COMBAT

(XD3.0) SHIELDS
(XD3.33) The minimum shields on X-ships are ten boxes in each direction.
(XD3.61) If using Leaky Shields, X-ships "leak" at one-half of the normal rate. If normal ships leak one point for every four points of damage, X-ships leak one for every eight.

(XD6.0) FIRE CONTROL SYSTEMS
(XD6.3) X-ships have better targeting computers for combat. The net effect is to reduce the effectiveness of enemy ECM jamming. See (XD6.3142) and (XD6.393).
(XD6.3142) BUILT-IN: X-ships do not produce extra points of ECCM at no energy cost; see (XD6.393) for the new rule. ✯
(XD6.3144) X-ships use EW (and are affected by it) normally. X-ships do not ignore lent EW and can use EW from any source a non-X-ship can.
(XD6.3145) X-ships ignore offensive EW jamming applied by a non-X-scout.
(XD6.34) EW Effect: Due to their advanced fire control, if an X-ship has more ECCM than its target's ECM, it gets a special -1 modifier to its fire. This modifier obeys all rules relating to negative shifts (i.e., it may not cause a column shift for a phaser). This is cumulative with legendary gunner but not with an outstanding crew.
(XD6.393) All X-ships may generate EW (total ECM and/or ECCM) up to their sensor rating plus two. For undamaged ships, this would mean the ability to buy up to eight total points of ECM and ECCM.
(XD6.394) X-ships have two ECM while cloaked (XG13.44).
(XD6.54) UIM BURNOUT: There is no penalty for UIM burnout on an X-ship other than the loss of the UIM.
(XD6.56) INSTALLATION: All X-ships armed with disruptors have UIMs as standard equipment. Cruisers have three; frigates and destroyers have two. X-ships can purchase backups under (S3.2).
(XD6.622) No change from non-X rules. ✯
(XD6.633) FIRE CONTROL ACTIVATION: X-ships have a three-impulse delay on activation rather than the standard four-impulse delay. NOTE that if the fire control becomes fully active during the wild weasel explosion period (J3.211), the weasel will be voided at that point, i.e., one impulse sooner, although they can voluntarily take four impulses for deception purposes.
(XD6.68) All X-ships are under the restrictions of this rule for only three impulses rather than the standard four impulses, although they can voluntarily take four impulses for deception purposes.

(XD7.0) BOARDING PARTY COMBAT ON X-SHIPS
(XD7.422) STEP 2A: All X-ships are treated as having two Security Stations for purposes of this rule so long as there are two or more functioning control systems (groups of boxes) on the ship. If there is only one functioning control system, the X-ship is treated as having one Security Station for purposes of this rule. "Control system" is defined as bridge, aux con, emer, or flag. Two separated control boxes qualify; two connected control boxes do not. As per (D16.55), these protect the area with the designated control system and one other. For the Klingons, use the normal Security Stations.

(XD8.1) CRITICAL HITS: X-ships roll for critical hits when struck by 40 or more damage points when (D8.0) is used.

(XD9.21) SHIELD REPAIR: X-ships repair one shield box per point of power in damage control.
(XD9.7) CONTINUOUS REPAIRS: An X-ship using this system repairs its own systems at the non-doubled rate (XG17.3), e.g., an X-phaser-1 requires five repair points to repair and can be repaired for four repair points as an X-phaser-2. Destroyed systems CANNOT be hastily-repaired to non-X status (XG17.512).

(XD11.3) CHAFF: X-drones (types-VII, -VIII, and -IX) add one to the roll to lose lock-on as a result of chaff, i.e., they are only distracted by chaff on a roll of three or less. If X-drones and non-X-drones are targeted on the shuttle, the non-X-drones use the unmodified die roll. X-drones roll normally against chaff dropped by X-shuttles. Standard admin shuttles, even those on X-ships, do not have chaff (XJ2.1) although advanced admin shuttles in *Module J2* do. ✯

(XD13.0) AEGIS FIRE CONTROL: All X-ships have a special version of Limited Aegis (two shots), which can engage seeking weapons, shuttles, and PFs; this is known as X-Aegis. Note that the successive volleys will quickly wreck PFs, one of the reasons that X-ships put PFs out of business.
Bases which have Full Aegis as standard equipment without X-technology (e.g., starbases, BATs, base stations) retain this aegis capability when fitted with X-technology (gaining the ability to engage PFs).
X-Aegis has a maximum range of fifteen hexes.

(XD14.0) EMERGENCY DAMAGE REPAIR cannot repair X-systems to non-X status.

(XD16.45) ADVANCED BOARDING PARTY COMBAT: While many proposals have been made to improve the boarding party capability of X-marines, it is clear that X-marines would simply have better training (available to any marines) and perhaps better weapons (but 10,000 hand phasers cost less than one frigate). Consequently, except for (D7.422), there is no change to boarding party or ground combat for X-ships.

(XD17.121) TACTICAL INTELLIGENCE: An X-ship counts as a scout for tactical intelligence purposes. X-scouts are treated as gaining one level higher than a scout (i.e., if range provides level F, an X-scout receives Level G information).
(XD17.196) DETECTION: X-ships are never detected simply because they are X-ships, but only when their increased or improved systems are detected. Note that unless various deception measures are taken under (D17.7), an X-ship will be detected as such at various ranges as a result of its warp power (Level E); the number of phasers (Level G); the performance of various operations, such as aegis fire control signals (D13.51) from a hull type that should not have aegis (Level E); or when specific classes of ships can be identified (Level-H).
(XD17.222) CLOAKED OBSERVER: No change from non-X rules. ✯
(XD17.26) No change from non-X rules. ✯
(XD17.4) LEVEL G: Plasma-L and -M launchers distinguished.
(XD17.7) See also (XG13.14) and (XG13.15).

(XD18.0) SURPRISE
(XD18.12) This also applies to type-L plasma torpedoes.
(XD18.22) Aegis does not function when the ship is inactive (D6.62). The unit still ignores lent offensive EW (XD6.3145) applied by a non-X-scout.
(XD18.31) See (D18.35).

(XD19.0) PASSIVE FIRE CONTROL
(XD19.26) REACTIVATION: X-ships can reactivate their fire control in three impulses, although they can take the usual four impulses for deception purposes. See (XD6.633) or (D6.67).
(XD19.31) Note that an X-ship has this bonus.

(XD20.25) HIDDEN DEPLOYMENT: An X-ship can lock-on to a non-X-ship after only three impulses. See (XD6.633). An X-ship counts as a scout for detecting hidden units.

(XD21.56) CATASTROPHIC DAMAGE: X-units have a bonus of +1 to the die roll in addition to all other applicable bonuses such as (D21.543).

(XE0.0) DIRECT-FIRE WEAPONS

(XE1.0) GENERAL DIRECT-FIRE RULES

(XE1.25) MISFIRE: All rules pertaining to weapons misfires are deleted; all references to such rules are to be ignored. NOTE: Players found the misfire rules made the game a frustrating die-rolling contest where tactics and strategy were irrelevant, only avoiding a misfire die roll mattered, and there was nothing one could do to avoid it. In place of this penalty, fast-loaded heavy weapons are limited to a range of fifteen (even if held to a later turn), reflecting their instability. The misfire concept was deleted in the Nov 2001 revisions in *Captain's Log #23*.

(XE1.50) FIRING RATE: This rule applies to fast-loaded weapons which normally cannot fire in consecutive turns.

(XE1.7) Small Targets: X-ships ignore the small target modifier.

(XE2.0) PHASERS

(XE2.42) PHASER OVERLOADS: This concept was deleted in the Nov 2001 revisions in *Captain's Log #23*.

(XE2.43) RAPID-PULSE: X-ships may fire their phasers in this mode as a defense against seeking weapons, shuttles, and PFs. This mode is tied into the X-Aegis defensive fire control system and cannot be used to engage ships (size 4 or larger); exception (XE2.433).

Under this system, most phasers gain an ability to fire twice with reduced effect (i.e., ph-3 rather than ph-1) on each individual shot. This is known as "rapid-pulse fire".

Players are not required to record in advance the intention to fire any phaser in rapid-pulse mode. In this mode the shots may be fired in the same or a different impulse and at the same or at different targets. This mode can also be used when sweeping mines (XM8.5). The power for each shot is deducted from the capacitors or reserve power at the time it is made. A phaser may not be fired in normal and rapid-pulse modes during the same turn.

Rapid-pulse can also be used against asteroids, which are not engaged under the X-Aegis system.

(XE2.431) When using the rapid-pulse system, a phaser-1 or -2 may be fired as two phaser-3s; this costs one point of power (1/2 point per shot). This fire is, however, under X-Aegis fire restrictions and cannot be used against ships.

(XE2.432) When using the rapid-pulse system, a phaser-4 may be fired in one of the modes listed below. This fire is, however, under X-Aegis fire restrictions and cannot be used against ships.

(XE2.4321) A phaser-4 may be fired as two phaser-1s; this costs two points of power (one point per shot).

(XE2.4322) A phaser-4 can be fired as four phaser-3s; this costs two points of power (1/2 point per shot). ✯

(XE2.4323) A phaser-4 can always be fired as a phaser-1; see (XE2.431).

(XE2.433) When using the rapid-pulse system, a Phaser-G may fire as four phaser-3s; this costs one point of power (1/4 point per shot). (This is the same as a non-X phaser-G.) This can be done under the X-Aegis restrictions (gaining the benefit of "fire, observe, fire again" at the cost of not being allowed to engage ships) or without the X-Aegis restrictions, in which case it can be fired at ships but cannot observe the effects of one shot before deciding to fire another. This decision is made at the instant that the weapon is fired for the first time in a given turn.

(XE2.434) If multiple shots from one phaser are fired in a narrow salvo (E1.6), the shots must be fired at the same target and in the same aegis step; it is not possible to fire some shots in a narrow salvo, observe results, and then choose whether to fire more shots with the same die roll.

EXAMPLE: A Federation CX with its many phasers has a total phaser capacitor of 24 (two points for each of the twelve phaser-1s). At the start of the current turn, this capacitor holds fourteen points of power, and there are six points of reserve power in the batteries. During the turn, the CX observes four drones only one hex away that will strike on the next impulse. The captain (kicking himself for not noticing the drones earlier) decides to use the rapid-pulse system with several phasers. The four drones are identified by labs and determined to all be type-I drones, each requiring four damage points to kill. The captain fires two phaser-1s, each as two phaser-3s. On average, this will kill two or three of the drones outright, but in this case he rolls poorly, leaving three drones alive (with two points of damage remaining). Observing the result, the captain then uses his X-Aegis system to fire another shot on the same impulse. He uses one phaser-1 firing as two phaser-3s (one point of power) and a second phaser-1 firing as a single phaser-3 (1/2 point of power) to destroy these drones.

(XE3.0) DISRUPTORS

(XE3.24) HOLDING DISRUPTORS: Standard disruptors may be held at a cost of one point of power allocated at the start of the turn following the turn the weapon was charged and not fired, and each succeeding turn until the weapon is fired, discharged, or destroyed. Disruptors may not be held at the start of a scenario under any weapon status.

The held weapon may be overloaded with allocated or reserve power on a following turn (during which it was held).

Overloaded disruptors may be held at a cost of two points of power allocated at the start of the turn following the turn during which the weapon was overloaded and not fired (whether it was overloaded by allocated or reserve power), and each succeeding turn until the weapon is fired, discharged, or destroyed.

The overloaded disruptor may be discharged (E1.24) during a turn in order to allow a standard disruptor to be fired with reserve power.

All holding energy must be allocated at the start of the turn.

(XE3.32) X-bases and size class-3 X-ships have Range-40 disruptors; size class-4 X-ships have Range-30 disruptors.

(XE3.61) All disruptor-armed X-ships have UIM modules [see (XD6.56) for how many] and suffer no burn out effects [see (XD6.54)] other than the loss of the specific module which burned out.

(XE3.62) All disruptor-armed X-ships are equipped with DERFACS.

(XE4.0) PHOTON TORPEDOES

(XE4.5) FAST LOADING: X-ships may arm photon torpedoes in a single turn by allocating during that single turn the total amount of energy required to arm a normal (non-X) torpedo over two (or more) turns. (The specific type of loading — Normal, Normal-Fast, Overload, Overload-Fast — must be recorded on the EA Form. Use the initials of the loading method.) Reserve warp (including AWR) power may be used to complete the arming of a photon which was originally being armed over two turns. Such torpedoes, if not overloaded, may be held as per (E4.22) and could be overloaded on a subsequent turn. (Fast-overloaded photons cannot be held into a subsequent turn; they must be fired or discharged on the turn of arming.) See (XE1.50).

(XE4.51) FAST OVERLOAD PHOTON RESULT

Total Energy	Warhead Strength	Feed Back
4.5	9	0.5
5	10	1
5.5	11	1.5
6	12	2

The maximum warhead strength of a fast-loaded photon is twelve. Note that a warhead strength of nine is still an overload and is still limited to Range 8. Fast loaded non-overloaded photons are limited to Range 15.

(XE5.41) ANTI-DRONE SYSTEMS were modified to enable them to fire type-IX drones, but were otherwise unchanged. See (XFD3.86) for Starbase-ADDs.

(XE7.0) FUSION BEAMS

(XE7.22) COOLING: An X-ship may fire its fusion beams every turn. There is no one-turn cool-down required for X-ships, but if a fusion is fired on a consecutive turn it is limited to Range 15. Note that this will continue as long as the weapon is fired overloaded on consecutive turns. See (XE1.50).

(XE7.421) Suicide overloads only destroy the beam which fires them and score no other damage. If not fired, an X-ship can discharge a suicide overloaded beam into space under (E1.24) and sustain no damage to the ship (or the beam).

(XE10.0) HELLBORES

(XE10.2) An X-ship may arm (but not overload) its hellbores in one turn (and hence fire them every turn) by allocating the total amount of energy required (i.e., six points) in that single turn (either in Energy Allocation or a combination of three allocated and three reserve points). If fired on the turn that it was fast-loaded (i.e., if not held to a later turn), range is limited to fifteen hexes.

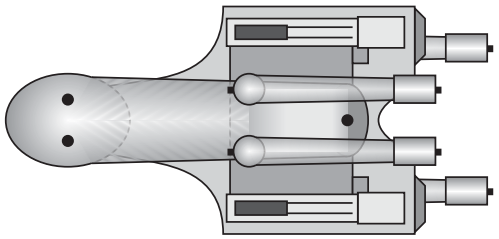
If unfired, the weapon can be held for two points of energy (any source) per turn. Overload energy can be added during the turn the hellbore is held (added by either allocated or reserve power), but an overloaded hellbore may not be held.

See (XE1.50) regarding firing rates.

(XE11.0) PLASMATIC PULSARS

(XE11.21) An X-ship can load (but not overload) its PPDs in one turn (and hence, fire them every turn) by allocating the total amount of energy required during that single turn. (Whether the energy is a fast load must be noted on the Energy Allocation Form.) While a PPD can fire every turn, it cannot fire until eight (or more) impulses after it has completed firing from the previous turn (XE1.50). If fired on the turn that it was fast-loaded (i.e., if not held to a later turn), the range is limited to fifteen hexes.

(XE11.22) Overload energy can be added to a PPD being held (but not on the first turn of arming or fast-loading) either through allocated or reserve power. An overloaded PPD cannot be held.



ROMULAN FIREHAWK-X HEAVY CRUISER (FHX)

(XE12.0) WEB CASTERS

(XE12.31) A web caster on a First-Generation X-ship can be charged with up to six points of power.

(XE12.44) X-WEB CASTER STRENGTH TABLE ✯

Energy Used			Number of Web Hexes Created				
Range							
1–10	11–20	21–30	1	2	3	4	5
1	2	3	10	5	3	2	2
2	3	4	20	10	6	5	4
3	4	5	30	15	10	7	6
4	5	6	35*	20	13	10	8
5	6	†	35*	25	16	12	10
6	†	†	35*	30	20	15	12

(XE13.0) SNARES

(XE13.2) A Tholian X-ship can put two energy points into its snare generators. If two energy points are allocated (and both are used at the same time, which isn't required), the snare creates either one hex of twenty-point web or two hexes of ten-point web.

(XE14.31) X-WEB FIST CHART

RANGE	1–10	11–20	21–30
HIT: / MISS:	1–4 / 5–6	1–3 / 4–6	1–2 / 3–6
ENERGY USED	DAMAGE SCORED		
1	2	0	0
2	4	2	0
3	6	4	2
4	8	6	4
5	10	8	6
6	12	10	8

(XE15.0) WEB BREAKER

(XE15.24) FIRING MODE: The decision whether to fire a given web breaker in web breaker mode (E15.31), in anchor break mode (XE15.40), as a shield cracker (E16.0), or in damage mode (XE16.1), is made at the instant of firing and is announced as part of identifying the target.

(XE15.35) ELECTRONIC WARFARE: This affects web breakers fired in anchor break mode (XE15.40) normally.

(XE15.40) ANCHOR BREAK MODE: This firing mode can only be used against Tholian ships, anchor buoys serving as web anchors, or ships or shuttles that are creating web.

(XE15.41) The web breakers are fired at the Tholian unit, not at the web, and if the damage scored equals or exceeds the strength of the web hex, the Tholian unit loses its ability to serve as a web anchor. Any web strands that Tholian unit was anchoring or spinning immediately collapse as per (G10.113). The unit is otherwise undamaged, and could on any following impulse again act as a web anchor or lay web. Under (G10.1167) there cannot be more than one anchor in a given web hex, but if there is more than one ship in such a hex qualified to serve as an anchor it can immediately assume anchor status under (G10.1161) if the current anchoring unit loses that status.

(XE15.42) If more than one advanced technology web breaker is fired at a given Tholian anchor or spinner (whether ship, buoy, or shuttle) in a given impulse, even if they are all fired by the same unit, they interfere with each other. Total the results of all such fire in a given Marines Activity Stage (6B7) after accounting for any modifiers and then halve the final result rounding any fractions down.

EXAMPLE: A Seltorian CAX and a DDX fire their web breakers at a Neo-Tholian NLX that is anchoring one end of a strength twelve cast web, which will delay the escape of the Hive Ship (which cannot turn in time to avoid the web). The CAX is five hexes away and rolls a four (nine points) and a one (fifteen points), the DDX is four hexes away and rolls a six (seven points). This totals 31 points, half of which is fifteen which is three more than the strength of the cast web. The Tholian ship loses its anchor status and the web immediately dissolves, enabling the Hive Ship to continue to flee the Tholian attack.

(XE15.44) This cannot be used against non-Tholian anchors; i.e., it will not cause an asteroid or other terrain feature to lose its anchor status.

(XE16.0) SHIELD CRACKER

Shield crackers were originally designed by Tholian scientists with the sole intention of making it possible for their Seltorian surrogates to capture rebellious targets and merchant ships with a minimum of damage. The economic benefit of reducing the level of destruction so that recaptured ships and other installations could be put back into the service of The Will was obvious, and the deaths of a few Seltorian Marines in combat on such rebellious ships had no meaning since more could be hatched. The Seltorian Tribunal retained the weapon on its ships for this function (Seltorian Sages having similar views about the expendability of Seltorian Marines) and, of course, its ability to function as a web breaker. However, confronted by the new weapons (disruptors, fast patrol ships, fighters, advanced technology, etc.) and resilience of the Holdfast, the Seltorians saw a need to adapt themselves.

The Seltorians were not willing to share the secret of the web breaker with the Klingon Empire, perhaps seeing it as a political tool to ensure the Klingons would support them. (Giving the technology to the Klingons would make the Tribunal dispensable.) The shield cracker already had two of the things that made a true weapon (a means of projecting energy and of directing that energy at a specific point). The problem was simply to change the manner in which the energy was projected without interfering with what the Tribunal, in actual contact with Tholians, saw as its primary function: breaking webs.

Studying examples and schematics of disruptors provided by their Klingon allies, Seltorian scientist Sages created this improved function which enabled the shield cracker to actually damage structures rather than the energy fields that were shields.

(XE16.1) DAMAGE MODE: Damage mode is another firing mode of the web breaker weapon; see (E15.24). All data from (E15.0), such as firing rates, energy cost, repair cost, technological limitations, etc., applies to the combined cracker/breaker weapon. Note particularly that shield crackers cannot be fired in a nebula (E15.373). X-shield crackers fired in damage mode are treated as any other direct-fire

weapon for purposes of Magellanic VRF. EXCEPTION: A shield cracker is affected by all EW rules as any other direct-fire weapon is affected (E15.35) no matter what mode it is fired in.
(XE16.43) Damage mode operates as a normal direct-fire weapon, including being fired in the Direct-Fire Weapons Segment (6D) of the Sequence of Play rather than the Marines Activity Stage (6B7). If a shield cracker fired in damage mode hits the target, the listed damage is scored first against shields, if any, and then against the target unit. This damage will fill and degrade Andromedan power absorber panels as any other non-disruptor damage would.
(XE16.53) When fired in damage mode (EX16.1), a shield cracker does not interfere with reinforcement. It scores its four points of damage as show in the table in (E16.3) as normal damage.

(XE17.0) PARTICLE CANNON
(XE17.2) ARMING PROCEDURE
(XE17.212) The cost of each shot fired is as follows:
- Overloaded shot (first shot of turn).....3 points
- Standard shot (first shot of turn).....2 points
- Overloaded shot (second shot of turn).....3 points
- Standard shot (second shot of turn).....1 point

(XE17.22) HOLDING: A particle cannon's capacitor can hold a maximum of seven points of energy at any one time. This can include reserve and allocated power. Reserve power cannot be sent to the capacitor if it exceeds the limit, even if the capacitor is firing at the same instant.
(XE17.222) At WS-0, the capacitor has no energy. It can hold up to three points of power at WS-I, up to five points of power at WS-II, and up to seven points of power at WS-III. A Seltorian player may choose to have less energy in his capacitors than allowed by his weapons status.
(XE17.3) FIRING PROCEDURE
(XE17.33) FIRING RATE: A given advanced technology particle cannon can be fired up to twice per turn but no shot can be within eight impulses of a previous shot. Discharging energy from the capacitor does not reset the eight-impulse delay.

EXAMPLE: A Seltorian advanced technology cruiser begins the scenario at WS-II with five points in each capacitor. It pays 2.5 points per PC to hold this energy. During Turn #1, another point per PC is provided by allocated power, bringing each particle cannon to six points (the most that can be used in a single turn). The PCs fire an overloaded shot, expending three of the six points in each capacitor. Eight impulses later, it uses one of the remaining three points in each capacitor to fire a standard shot from its PCs, leaving it two points in each capacitor at the start of the following turn.

NOTE: The second shot might have been another overload shot, and might have been fired more than eight impulses since the previous shot.
(XE17.4) OVERLOADS
(XE17.41) POWER: A particle cannon can fire overloaded shots; this requires three points of power per shot fired in this manner. Both the shots fired by an advanced technology particle cannon in a given turn might be overloads. Consecutive shots over a turn break [at the prescribed interval in (XE17.33)] may both be overloaded or non-overloaded or one of each.
(XE17.43) NUMBER OF SHOTS: Advanced technology particle cannons can fire up to two shots a turn (E17.33), but cannot fire a shot within eight impulses of a previous shot, including a shot fired on a previous turn. Both shots in a given turn can be overloaded, and the overload energy can be power that was allocated to the particle cannon's capacitor or drawn from reserve/battery power at the instant the shot is fired. Note that reserve power might be allocated to the capacitor in mid-turn to allow an overload shot later in that turn (H7.132).

(E18.8) X-TECHNOLOGY RAIL GUNS
Warp technology was applied to some rail guns operated by some Caravans. It was only applied to Heavy and Medium Rail Guns.
(E18.81) HEAVY RAILGUNS: An X-Technology ship can fire it a Heavy Rail gun every turn by paying the full arming cost. This can include reserve warp power provided to a weapon that begins arming on the current turn to complete the arming.
(E18.811) An X-Heavy Rail Gun that begins arming as a normal Rail Gun cannot be changed to a Medium or Light Rail Gun shot by the application of reserve power, it can only be completed as a normal shot.
(E18.812) An X-Heavy Rail Gun that begins arming as a Medium Rail Gun cannot be changed to a normal (full strength) shot by the application of reserve power, it can only be completed as a Medium Rail Gun shot.
(E18.813) If the weapon has been loaded as a light rail gun, the application of reserve power cannot be used to upgrade the weapon to either a normal or medium shot.
(E18.814) The decision to fire a given shot as an offensive shot or as a defensive shot is made when the power to complete the weapon is made, including the application of reserve power.
(E18.815) There is no improvement in the damage, range, or other effect of the weapon other than the increase in the rate of fire.
(E18.82) MEDIUM RAILGUNS: An X-Technology ship can fire it a Medium Rail gun every turn by paying the full arming cost. This can include reserve warp power provided to a weapon that begins arming on the current turn to complete the arming.
(E18.821) An X-Medium Rail Gun that begins arming normally cannot be changed to a Light Rail Gun shot by the application of reserve power, it can only be completed as a normal shot.
(E18.822) If the weapon has been loaded as a light rail gun, the application of reserve power cannot be used to upgrade the weapon to either a normal shot.
(E18.823) The decision to fire a given shot as an offensive shot or as a defensive shot is made when the power to complete the weapon is made, including the application of reserve power.
(E18.824) There is no improvement in the damage, range, or other effect of the weapon other than the increase in the rate of fire.
(E18.83) LIGHT RAILGUNS: There is no X-technology version of the Light Rail Gun.

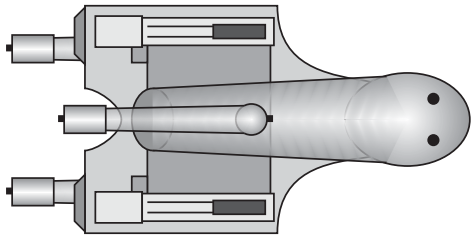
(XE20.0) TRANSPORTER ARTILLERY
(XE20.3) CARRIAGE
Transporter artillery rounds are carried by commando ships and troop ships, and can be carried by other ships.
(XE20.31) ADVANCED TECHNOLOGY COMMANDO SHIPS have two rounds of transporter artillery on board for each original boarding party on board. This is included in their BPV.

(XE21.6) X-TECH ION CANNON
(XE21.61) FAST LOADING: X-ships may arm ion cannon in a single turn by allocating the total amount and type of energy required to arm a normal (non-X) cannon over two (or more) turns (E21.31) or (E21.51). The specific type of loading — Normal, Normal-Fast, Overload, Overload-Fast — must be recorded on the Energy Allocation Form, and in the case of non-overloaded weapons if the torpedo has a proximity fuze. See (XE1.50). If fired on the turn that it was fast-loaded (i.e., if not held to a later turn), range is limited to fifteen hexes.
(XE21.62) RESERVE POWER: Reserve power may be used to complete the arming of an ion cannon originally being armed over two turns. Such a cannon, if not overloaded, may be held as per (E21.22) and could be overloaded on a subsequent turn.
(XE21.63) HOLDING: Fast overloaded ion cannon cannot be held into a subsequent turn; they must be fired or discharged on the turn of arming. Fast standard load ion cannons can be held normally on subsequent turns if not fired, and can be overloaded on a subsequent turn, perhaps with reserve power.

(XF0.0) SEEKING WEAPONS

(XF2.13) HIGH ENERGY TURNS: X-drones and X-plasma torpedoes can make one HET during each period of sixteen consecutive impulses on the map (i.e., two per turn, not within sixteen impulses of any other HET).

(XF3.2) CONTROL LIMITS: X-ships armed with drones or plasma torpedoes can control a number of seeking weapons equal to double their sensor rating. X-ships not armed with drones or plasma torpedoes can control a number of seeking weapons equal to their sensor rating. Starbases have double seeking weapon control; see (R1.201).
(XF3.5) TRANSFERS: Control of X-seeking weapons cannot be transferred to a non-X-unit (i.e., an X-base, X-ship, or X-MRS). X-ships can control non-X weapons and accept transfers. This is one of the reasons why X-squadrons became the standard way of employing X-ships.



ROMULAN SPARROWHAWK-AX (SPX)

(XFD0.0) DRONES

(XFD2.0) TYPES OF X-DRONES

(XFD2.1) Chart for drones used by X-ships. Obviously, X-drones can use any legal combination of drone warhead payload modules. The type-IX drone has two full turns (64 impulses) of endurance.

Type	Speed	Endurance	Warhead	Damage	Space
VII	Varies	5	18*	6	1
VIII	Varies	5	24†	8	1.5
IX	Varies	2	8‡	4	0.5

* This drone can carry three 1/2-space modules or a one-space and a 1/2-space module. These can be of any type, but only one can be in the forward position. The warhead rating in the chart is based on three 1/2-space explosive modules. Note that this is a "one space" drone with "one and a half" payload spaces.

† This drone can carry two modules, and one or both can be explosive modules; only one module can be in the "forward" position. Two half-space modules can replace each single-space module. Note that this is a "1.5 space" drone which has two "payload spaces". It is reloaded for one crew action.

‡ This drone has a fixed warhead which cannot be changed in any way (XFD10.2). It is a warp-seeking dogfight drone (XFD5.14). See (XFD2.51). The warhead operates under rule (FD2.54).

(XFD2.11) Extra type-VII drones cost 2.75 points. Extra type-VIII drones cost 3.5 points. Extra type-IX drones cost one point.
(XFD2.21) Type-VII, type-VIII, and type-IX drones are X-drones and can only be used by X-units.
(XFD2.22) Type-VII, type-VIII, and type-IX drones can select their speed from several available settings. The launching player announces the speed the drone will use on launch; see (XFD10.3).
(XFD2.222) Extended range is available for type-VII and type-VIII drones, but not type-IX.
(XFD2.31) The basic "no cost" drone load for X-ships consists of type-VII drones. See (XFD10.1).
(XFD2.42) All X-ships have triple reloads for their drone racks.
(XFD2.51) The type-IX drone is a dogfight drone carried by X-ships. It is treated for all purposes as a type-VI drone except for the improved factors noted in the chart. (It has the same reduced warhead effects against some targets as type-VI drones, e.g., two points against ships, four against PFs (FD2.54) Type-IX drones may only be carried in type-Gx, type-Dx, and type-Hx racks and in ADD racks on X-units (and on X-multi-warhead drones).

NOTE: In some older editions of the game, this designation (IX) was used for a second-generation X-drone. That weapon has been redesignated (XI) due to the need for a warp-seeking X-drone.

(XFD3.0) TYPES OF X-DRONE RACKS

Drone racks on X-ships can launch non-X drones.
(XFD3.3) Some Kzinti, WYN, and Orion ships continued to use C-racks. These racks were modified to use the X-drones, but are otherwise functionally identical to a normal C-rack, i.e., they still held only four spaces of drones and could not function as ADDs or use type-VI or type-IX drones.
(XFD3.4) X-BATS used an improved D-rack called a Dx-rack. It is identical to the D-rack except that each magazine can hold six spaces of drones and the necessary electronics to handle the new X-drones were installed.
(XFD3.46) Plasma racks on X-battle stations have three magazines, each with six D-torps.
(XFD3.7) Almost all drone-armed X-ships used type-Gx drone racks able to hold six spaces of drones and to use the new X-drones. In all other respects, these drone racks function the same as type-G drone racks. The third reload set on a Gx-rack is entirely ADDs.
(XFD3.8) X-starbases used a modified type-H rack called an HX-rack. It is identical to the H-rack, except that each of the five magazines can hold six spaces of drones (including any mixture of 1/2-, 1-, 1.5- and two-space drones) and the necessary electronics to handle the new X-drones were installed.
(XFD3.86) Anti-drone racks on X-starbases were modified to handle type-IX drones and were otherwise unchanged.
(XFD3.87) Plasma-racks on X-starbases have five magazines, each with six type-D torpedoes.

(XFD4.0) DRONE FIRING RATES

(XFD4.2) All X-ships can launch drones from their drone racks at the maximum rate allowed by each particular rack.
(XFD4.5) All Orion X-ships had OAKDISC installed; this is included in their BPVs.

(XFD5.0) X-DRONE GUIDANCE

(XFD5.11) The type-IX drone is a warp seeker.
(XFD5.14) The type-IX drone also uses warp seeking.
(XFD5.2) Type-VII and type-VIII drones include ATG in their frames; see (XFD10.2).

(XFD7.0) SCATTER-PACKS

(XFD7.11) Only X-ships can prepare a scatter-pack that includes X-drones. Such a scatter-pack could also include non-X drones if they are available. X-drones cannot be loaded on a fighter used as a scatter-pack.

(XFD8.0) MULTI-WARHEAD DRONES

These are X-versions of the standard MW modules.
(XFD8.11) Two-space has five type-IX submunitions, cost = six.
(XFD8.14) The one-space module has three type-IX drone submunitions, cost = four.

(XFD9.0) ECM DRONES

(XFD9.12) X-ECM drones [built under (XFD10.0)] can lend to X-ships and to non-X ships; they can escort X-drones and non-X-drones.

(XFD10.0) X-DRONE CONSTRUCTION

(XFD10.1) DEFINITION: X-ships primarily used three types of drones:
the single-space type-VII
the one and a half-space type-VIII
the half-space type-IX dogfight drone
(They also used standard ADDs in some cases.)

These drone types may only be carried by X-ships. *They cannot be carried by fighters.* X-ships often carried non-X-drones (purchased as additional weapons, no refund if exchanged for standard X-drones) and often carried type-VI (dogfight) or type-IX drones in their type-Gx drone racks for anti-fighter work.

X-ships include type-VII drones with explosive warheads as standard equipment. The cost is included in the BPV of the ship. (Costs for frames and propulsion listed below are for reference purposes.) Costs for modules are extra. Substitution of one type-VIII for two type-VIIs will produce a refund of two points which can be applied to the cost of drone warhead modules but cannot reduce the BPV of the ship. The drones themselves are general availability items for X-ships; warhead modules remain under the originally assigned restricted and limited availability rules (FD10.6).

(XFD10.2) DRONE FRAMES

The type-VII drone frame is a one-space drone frame (i.e., it takes up one space on a drone rack). It is destroyed by six damage points.

The type-VIII drone frame is a 1.5-space drone frame (i.e., 1.5 rack spaces). It is destroyed by eight damage points.

Both the type-VII and type-VIII drone frames include active terminal guidance (FD5.21) as a standard feature; this can be deactivated at the instant of launch if the tactical situation warrants but cannot be removed to reduce the cost. Note that this makes the

cost of the frame 0.5 points as that is the cost of an ATG-capable frame.

Type-IX drones cannot be modified and are "warp seekers" as are type-VI drones; see (XFD2.51), (XFD5.11), and (XFD5.14). They are destroyed by four damage points.

(XFD10.3) PROPULSION

The propulsion modules for X-drones can be set to run at a speed of 32, twenty, twelve, or eight at the time of launch or when loaded into a scatter-pack. (The speed of MW submunitions is set at the time the bus drone is launched.) They have the same endurance (e.g., five turns for type-VII) no matter what speed they are set for. The propulsion module for the type-VII drone costs 1.5 points, and the propulsion module for the type-VIII drone costs 2.0 points. Note that, while the speed is set at launch, this speed remains constant as long as the drone is on the board and cannot be changed (or be set to change) during flight. Exceptions are in (FD9.112) and (FD6.21).

Type-IX drones have variable speed

(XFD10.4) PAYLOAD

X-drones can use all standard (non-X) warhead modules. There are also X-versions of some modules.

The type-VII drone has 1.5 payload spaces. One-space payloads that are designated front payload space only (e.g., MW, Swordfish, and Spearfish) may be used in this drone along with a 0.5 space explosive or armor module.

The type-VIII drone has two payload spaces but occupies only 1.5 spaces on the drone rack. Only one "forward" module can be carried, but it can be one-space or two-space.

External armor slows down X-drones as it would any other drones (FD12.132).

ECM modules cannot be combined with armor modules.

Any of the modules from (FD10.4) may be used as payloads for these drones. Armor will increase the damage points as usual.

Type-IX drones have an eight-point warhead (FD2.54), and this cannot be removed or replaced by any other module.

(XFD10.51) MODULE COSTS: Listed with each type.

MODULE	1/2–PS	1–PS	2–PS
Explosive	0.25	0.50	1.00
Probe	–	0.50	–
MW	–	2.50	3.50
XMW	–	4.00	6.00
ECM	–	0.50	–
Swordfish	–	1.00	2.00
X-Swordfish (ph1)	–	–	4.00
Spearfish	–	1.00	2.00
X-Spearfish	–	1.00	2.00
Starfish	–	2.50	3.50
Stingray	–	1.00	–
Armor	0.25	0.50	1.00
Ext Armor	0.25	0.50	–
Null	0.25	0.50	1.00

(XFD10.6) Drone-using X-ships use the Kzinti availability rates for special drones. Their calculations are based on payload spaces, not "rack spaces".

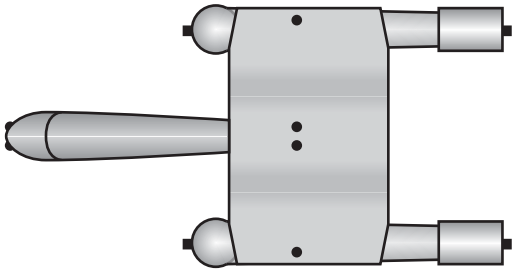
(XFD11.12) SWORDFISH DRONES: For type-VIII X-drones, the phaser in a two-space module is a phaser-1. It is NOT an X-phaser. Swordfish drones, even X-swordfish drones, never had X-phasers installed; the cost was far too high for one-shot units. Cost = four. Note that X-drones fitted with X-Swordfish modules do not burn out when the phaser fires but continue on with whatever modules are in the remaining space(s).

(XFD12.132) ARMOR: The type-VIII drone (which is 1.5 spaces) uses the row for two-space drones.

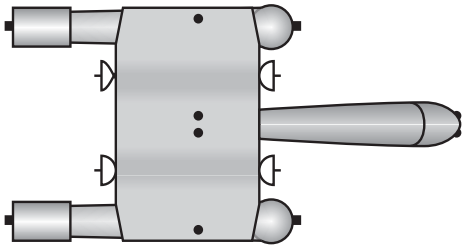
(XFD14.1) SPEARFISH DRONES: The Spearfish modules on X-drones operate as stated against X-ships. Against non-X-ships, the one-space (cost = one) will cause two points of internal damage and one of shield damage; the two-space module (cost = two) will cause four points of internal damage and two points of shield damage.

(XFD15.0) STARFISH DRONES: X-drones can use standard Starfish modules.

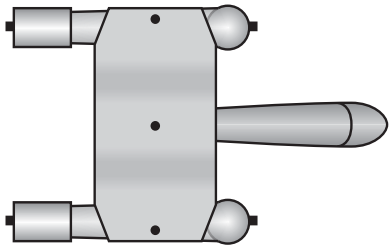
(XFD16.0) STINGRAY DRONES were obsolete, and no X-version was produced, but non-X Stingray modules could theoretically be installed on X-drones.



ROMULAN SKYHAWK-AX (SKX)



ROMULAN SKYHAWK-FX-SCOUT (SKSX):



ROMULAN SEAHAWK-X FRIGATE (SEX)

(XFP0.0) PLASMA TORPEDOES ON X-SHIPS

(XFP1.0) GENERAL X-PLASMA RULES

(XFP1.13) A type-R torpedo can be downloaded to a type-M (or -S, -G, -L, -F). A type-M torpedo can be downloaded to a type-S, -G, -L, or -F. A type-L torpedo can be downloaded to a type-F.

(XFP1.21) See (XFP1.25) and (XFP1.26) for exceptions to (FP1.21).

(XFP1.221) Type-L and type-M torpedoes can also be delayed in this manner.

(XFP1.25) FAST TORPEDO ARMING

(XFP1.251) All X-ships may arm and fire their plasma torpedoes in one turn, but the result is a type-F torpedo. The type-F torpedo costs seven points to arm; it cannot be an enveloping or shotgun type. The firing rate is limited by (XE1.50) even in seeking mode. Torpedoes may, of course, be armed by the normal method.

Players may not use fast-loading to complete the arming of a torpedo that was partially loaded (by the slower, normal, rules) on a previous turn. However, a player may discharge (E1.24) the energy in the launcher (which is lost, and causes no damage) and fast load the launcher by this rule. This can be done during Energy Allocation only.

Type-F and type-D torpedoes cannot use this rule.

(XFP1.26) RAPID TORPEDO ARMING: This method of arming requires two turns, but can produce a torpedo of the full size of the launcher. Basically, the second and third turn arming energy from a non-X torpedo is all applied on the second turn, and the torpedo is treated as one that has completed the third turn of (normal) arming. As can be seen from the chart, downloading (e.g., loading a type-S in a type-M launcher) is possible and may be tactically useful.

(XFP1.261) The additional energy for rapid arming can be provided by reserve power, allowing a torpedo in the normal arming process to be converted to rapid arming during the second turn. (However,

reserve power cannot produce an EPT or shotgun torpedo as these can only be armed during Energy Allocation.)

Torpedo Type	Turn 1	Turn 2	EPT or SG	Hold Cost
R	2	7	+5	4
M	2	7	+5	4
S	2	6	+4	2
G	2	5	+3	1
L	2	5	NA	0*
F	1 (or 2†)	4	NA	0*

* Type-F costs one to hold in non-F launcher. Only starbases can hold an R-torp. Holding cost is for a normal torpedo; EPT and Shotgun cannot be held.
† In a larger launcher for which two points was paid on the first arming turn, the torpedo could be converted into a type-F, but the extra point of power from the first turn would be lost.

(XFP1.43) SPEED: Plasma torpedoes launched by X-ships move at Speed 32, just as non-X-torpedoes do.
(XFP1.53) X-PLASMA TORPEDO TABLE
The table at the bottom of this page includes both non-X and X-torpedoes.
(XFP1.611) X-plasma torpedoes take phaser damage exactly the same way (and at the same rate) as non-X plasma torpedoes.
(XFP1.93) Type-L and type-M torpedoes can use rapid arming.
(XFP1.961) One point of reserve power is required to launch a type-M held in a type-R launcher as a type-R.

(XFP2.0) TYPES OF X-PLASMA TORPEDO
(XFP2.1) Two additional types of plasma torpedo are introduced in *Module X1:* the type-M and the type-L.
(XFP2.51) ARMING COST: The cost of arming a plasma torpedo is as follows:

Type	Turn 1	2	3	EPT or SG	Hold Cost
R	2	2	5	+5	4*
M	2	2	5	+5	4
S	2	2	4	+4	2
G	2	2	3	+3	1
L	2	2	3	NA	0*
F	1	1	3	NA	0*

* Type-F or type-L costs one to hold in non-F launcher. Only starbases can hold an R-torp. Holding cost is for a normal torpedo; EPT and Shotgun cannot be held.

(XFP2.62) TYPE-M PLASMA TORPEDO
The type-M plasma torpedo is used only by First-Generation X-ships. In power, it is between a type-S and a type-R. Attempts to place type-R torpedoes on ships were largely unsuccessful due to the extreme amount of insulation and power required for the torpedo chamber. Only those few ships with large structures devoted almost exclusively to the weapon were able to mount it. Experiments, however, determined that it was possible to provide sufficient insulation to increase the torpedo strength substantially while still falling short of the 50-point type-R warhead.
OTHER DATA ABOUT TYPE-M PLASMA TORPEDOES
- If fired as a shotgun, it results in four type-F torpedoes.
- It can use the wider LP/FP/RP firing arcs used by type-S torpedoes.
- It is a three-space weapon for ship modifications and option mounts. Orions can use type-M torpedoes.
- The repair cost is sixteen.
- It can be bolted.
- An X-ship can hasty-repair a damaged type-R launcher as a type-M, but a non-X-ship cannot.

(XFP2.63) TYPE-L PLASMA TORPEDO
The type-L plasma torpedo is a longer range version of the type-F which it replaced on X-ship conversions. The type-L launcher is, functionally, a type-F launcher that can fire a torpedo identical to a standard type-G torpedo. (The term "type-L torpedo" can be taken to mean a type-G fired from a type-L launcher under the restrictions below. Except for purposes of explaining how this rule works, the term "type-G" torpedo refers to a true type-G torpedo fired from a launcher other than a type-L.
The type-L launcher can arm a plasma-G torpedo (cannot be EPT or shotgun) or a type-F torpedo, each under the standard arming rules and costs (including rapid arming for X-torpedoes). The torpedo (G/L or F) can be held in the launcher at no energy cost (i.e., it retains the stasis capability of the F-launcher). The type-L torpedo launcher takes one space in optional weapons mounts.
At the start of a scenario, each type-L launcher can be holding a type-F or a type-L (i.e., G) torpedo at the option of the owning player (FP1.132).

(XFP3.2) SWIVELS: Plasma-M and -L torpedoes can use swivel mounts. R-torps on X-ships (and non-X) cannot have swivels.

(XFP5.0) ENVELOPING X-TORPEDOES
(XFP5.11) TYPE: There are EPT versions of the type-M torpedo used by X-ships, but not of the type-L.
(XFP5.242) An enveloping type-G torpedo will have the same warhead strength as a standard type-M and could be confused with it unless the specific launch tube were spotted or the torpedo traveled far enough for its deterioration to become noticeable.

(XFP6.0) PSEUDO X-TORPEDOES
(XFP6.11) GENERAL: X-ships have two PPTs per launcher.
(XFP6.21) FIRING LIMIT: X-ships have two PPTs and (obviously) can fire both during a scenario.
(XFP6.22) SIMULTANEOUS: A PPT may not be fired during the same impulse as a real torpedo from the same launcher. An X-ship cannot fire both PPTs from a given launcher on the same impulse.
(XFP6.23) TYPE: The PPT can be set to simulate any size of torpedo that could be fired by the launcher it is associated with. This decision must be made before the scenario begins and is recorded in writing (mark the warhead level on the SSD next to the check-off box); the records are revealed and verified at the end of the scenario. (The actual procedure is very complicated and would require several non-combat rounds to change; hence, it cannot be changed during a scenario.) There is no BPV adjustment for using a smaller PPT. It still cannot simulate an EPT or Shotgun load.

(XFP1.53) X-PLASMA TORPEDO TABLE ✯

RANGE	0–5	6–10	11–12	13–14	15	16–18	19	20	21–23	24	25	26–28	29	30
TYPE														
R	50	50	35	35	35	25	25	25	20	20	20	10	5	1
M	40	40	30	30	30	20	20	20	15	15	15	10	5	1
S	30	30	22	22	22	15	15	15	10	5	1	0	0	0
G	20	20	15	15	15	10	5	1	0	0	0	0	0	0
L	20	20	15	15	15	10	5	1	0	0	0	0	0	0
F	20	15	10	5	1	0	0	0	0	0	0	0	0	0
D	10	8	5	2	1	0	0	0	0	0	0	0	0	0
	1–4	1–3	1–2						1			1		

This chart does not list Plasma-K, which is unchanged from (FP13.2). The non-X torpedoes above are listed for reference purposes.

(XFP6.0) PSEUDO X-TORPEDOES
(XFP6.11) GENERAL: X-ships have two PPTs per launcher.
(XFP6.21) FIRING LIMIT: X-ships have two PPTs and (obviously) can fire both during a scenario.
(XFP6.22) SIMULTANEOUS: A PPT may not be fired during the same impulse as a real torpedo from the same launcher. An X-ship cannot fire both PPTs from a given launcher on the same impulse.
(XFP6.23) TYPE: The PPT can be set to simulate any size of torpedo that could be fired by the launcher it is associated with. This decision must be made before the scenario begins and is recorded in writing (mark the warhead level on the SSD next to the check-off box); the records are revealed and verified at the end of the scenario. (The actual procedure is very complicated and would require several non-combat rounds to change; hence, it cannot be changed during a scenario.) There is no BPV adjustment for using a smaller PPT. It still cannot simulate an EPT or Shotgun load.

(XFP7.0) X-PLASMA SHOTGUNS
(XFP7.1) DESIGNATION: Using this system, any torpedo larger than a type-F can fire a number of type-F torpedoes simultaneously.

BASIC TYPE	NUMBER OF TYPE-Fs PRODUCED
R	5
M	4
S	3
G	2
L	Not Allowed
F	Not Allowed

Essentially the ball of plasma energy in the launch tube is divided into smaller pieces to allow more targets to be engaged.
(XFP7.32) Type-M torpedoes cost ten points to load as a shotgun. Type-L torpedoes cannot be loaded as a shotgun. See (XFP2.51).

(XFP8.0) PLASMA BOLTS work normally on X-ships.

(XFP9.1) X-plasma-Ds are identical in all respects to standard plasma-Ds.

(XFP10.14) Plasma racks on X-ships have six spaces and two sets of reloads.

(XFP11.13) All X-ships have the Sabot Refit (FP11.13).

(XFP12.4) All X-ships automatically have the (FP12.4) Late War ECP Upgrade.

(XFP13.0) There are no changes to plasma-Ks on X-ships.

(XFP14.0) Plasma carronades are available to all X-ships with plasma-F or plasma-L launchers.

(XG0.0) SYSTEMS ON X-SHIPS

(XG2.0) CONTROL OF X-SHIPS
(XG2.2) Uncontrolled X-ships lose all benefits of being X-ships, i.e., phasers cannot be rapid-pulsed, hellbores cannot be charged in a single turn, no movement precedence, etc. The ship becomes a normal non-X-ship for all purposes, except that weapons and other systems will function within normal limits, e.g., a plasma-M could be loaded normally, but could not use X-fast-loading. Batteries would have the increased power ability.

(XG4.12) LABS: X-units add one to the result obtained (not the die roll) before multiplying by the number of labs.

(XG6.0) MUTINY: Klingon X-ships cannot mutiny. There may be exceptions in some scenarios that provide for the ship to have been stolen or commandeered by its own crew, or cases in which a ship from any empire could mutiny. If so, these will be clearly stated. The Klingons retained their security stations partly from tradition and partly so that the ESS could watch the crew and be sure they did not defect or surrender.

(XG9.41) MINIMUM CREW: Because the equipment is harder to maintain and the number of bases able to make repairs farther apart, the minimum crew for X-ships is double the minimum crew of non-X-ships. This is shown on the SSDs. Exception: This does not apply to X-starbases or X-battle stations.

(XG11.0) COMPUTER-CONTROLLED SHIP: X-ships cannot be computer-controlled. The empires had all given up on computer-controlled ships by the advent of X-technology, which was actually an outgrowth of the attempts to create a computer-controlled ship.

(XG12.0) SHIP SEPARATION: X-ships function normally under this rule, with the number of boxes required shown below Also note that some X-ships have small warp engines in their separable sections and gain certain benefits.

Tholian [see (G12.91)].....8
Federation CX, GSX.....7
Klingon DX, DXD.....6
Klingon FX, FSX.....4

(XG12.332) X-ship booms and saucers have ten-box shields.
(XG12.9) Neo-Tholian X-CMs cannot dock to non-X rear hulls and vice versa.

(XG13.0) X-CLOAKING DEVICES
(XG13.14) X-ships require four impulses, rather than five, to fade out. The first fade-out impulse is the +2 modifier. For deception purposes (XD17.7), an X-ship can extend its fade-out to five impulses to convince its opponent that it is not an X-ship.
(XG13.15) X-ships require four impulses, rather than five, to fade in. The last fade-in impulse is the +2 modifier. For deception purposes (XD17.7), an X-ship can extend its fade-in to five impulses to convince its opponent that it is not an X-ship.
(XG13.44) The cloaking devices on X-ships generate two points of ECM without any additional power expenditure. (These two extra points of ECM are received only after the unit becomes fully cloaked.) This ECM can, as with other ECM, be countered by ECCM. It does not count against the self-generated limit (D6.3141). It does count for (G13.331), which is of course why X-ships get this free ECM. See (XC13.949).

(XG17.3) REPAIRS: X-ships can be repaired at X-bases normally (i.e., for the costs on Annex #9). It requires twice the normal (Annex #9) amount of repair points for a non-X-base or other non-X repair system to repair a system on an X-ship.
(XG17.512) Hasty Repairs: A plasma torpedo cannot be hastily repaired as a plasma-M or plasma-L except on an X-ship. X-systems cannot be repaired as non-X systems. A Plasma-M or -L torpedo can be repaired as any smaller type of plasma torpedo but would be the X-version of that type of torpedo.
(XG17.522) A type-M torpedo launcher hastily repaired as a type-F launcher would not have the stasis box and would have to pay holding energy for any torpedo armed and held in it. A type-L torpedo launcher hastily repaired as a type-F would retain the stasis capability of the type-L.

(XG21.0) CREW QUALITY: X-ships never have poor or outstanding crews, and the crew quality rules do not apply to X-ships in any way. The technology is highly automated and the crew highly trained; these rules already reflect the maximum benefits of both.

(XG22.0) LEGENDARY OFFICERS: If players are using this optional rule in a free campaign, their X-ships will often have one of the following officers: Legendary Captain (G22.2), Legendary Science Officer (G22.3), or Legendary Engineer (G22.4). They will rarely have any other legendary officer. To see which, roll one die and consult the following chart:

Die Roll	Legendary Officer
1	Legendary Captain
2	Legendary Engineer
3	Legendary Science Officer
4	Roll on (G22.11)
5–6	No legendary officers are on this ship.

NOTE: This chart is used ONLY in player campaigns, and then only if players wish to use it. It is NOT used for published scenarios (since the outcome of the die rolls on the chart could determine the

winner before the scenario is even played). Published scenarios may include provisions for specific legendary officers.

(XG23.42) EXPANDING SPHERE GENERATORS: The ESGs on X-ships can use more power, but operate on the same 64-impulse cycle (i.e., X-ESGs can be activated 32 impulses after they were dropped or knocked down, just as non-X-ESGs do).

To determine the field strength, take the radius and use it to find the Strength Factor on the following chart:

Radius	Strength Factor	Energy Points Released						
		1	2	3	4	5	6	7
0	4.00	4	8	12	16	20	24	28
1	3.67	4	7	11	15	18	22	26
2	3.33	3	7	10	13	17	20	23
3	3.00	3	6	9	12	15	18	21

(XG24.0) SCOUTS: X-ships are treated as scouts for many purposes, including:

Tactical Intelligence (XD17.121).

Many functions related to mines (XM0.0).

(XG24.1342) Phasers firing in rapid-pulse mode at a maximum rate of one ph-3 shot per impulse will not blind sensors. Any other type of phaser (except a phaser-3) will blind a channel normally.

(XG24.219) See (XD6.3145).

(XG26.0) THOLIAN WEB ANCHOR BUOY

Tholian advanced technology ships began carrying this device in Y183.

(XG26.1) ASSIGNMENT

(XG26.112) An advanced technology web anchor buoy on the map is destroyed by eighteen points of damage from any source; see (XG26.33).

(XG26.12) AVAILABILITY: Any advanced technology Tholian ship that carries more than one shuttle can replace one of its advanced shuttles with an advanced technology web anchor buoy as a Commander's Option (S3.2). Advanced technology ships that only have one shuttle can only carry web anchor buoys if they are designated as doing so by the scenario or are assigned to carry web anchor buoys in a player-generated campaign. The cost of the device is fifteen points; see Annex #6. Note, however, the three points received for the removed advanced admin shuttlecraft makes the net cost twelve. Tholian X-ships can carry standard (non-X) web anchors.

(XG26.2) ENERGY REQUIREMENT

(XG26.21) CHARGING: Advanced technology web anchor buoys included power generation equipment and do not need to be charged before being used.

(XG26.23) HOLDING: Advanced technology web anchor buoys require no holding energy and do not count against the limit on the number of special shuttles at any weapon status.

(XG26.3) OPERATION

(XG26.33) ON-MAP STATUS: Advanced technology web anchor buoys are destroyed by the eighteenth damage point and will be destroyed by (G7.54) if towed at an effective speed of more than twenty hexes.

(XG26.331) The web anchor buoy is considered to have the effect of eight points of built-in ECM operating (D6.3142); it can receive loaned EW points (D6.3144).

(XG26.352) Even if a Tholian unit (whether an advanced technology unit or not) has assumed anchor status from an advanced technology web anchor buoy, the buoy can have anchor status returned to it on a subsequent impulse. It will assume that status automatically under (G10.1161) if the unit that relieved it is destroyed. It does not have to be recovered and re-laid to do this. If a second unit relieves the first unit of anchor status, and is then destroyed, the web anchor buoy will not reassume anchor status. It will only do so if the specific unit that relieved it of anchor status is destroyed while serving as the anchor.

(XG26.353) Recovered advanced technology web anchor buoys can only be repaired by a Tholian advanced technology ship or base. Tholian legendary chief engineers can repair advanced technology web anchor buoys under (G22.45).

(XG26.361) Advanced technology web anchor buoys can be dropped in non-web hexes for later use as the target for a cast web.

(XG26.362) Advanced technology web anchor buoys cannot be carried by non-advanced technology ships, and if recovered by such a ship become inert for the remainder of the scenario.

(XG27.5) X-DECOYS: Romulan X-ships can obtain X-decoys on the same basis as non-X ships. The existing supply of decoys must suffice for both X and non-X ships; it is not increased because X-ships are using some of them.

(XG36.0) ION PULSE GENERATORS:

The IPGs on X-ships can store and use more power and operate more efficiently.

(XG36.221) An X-IPG can hold up to eight points in its capacitor. It can have up to four points stored at WS-II and up to six at WS-III. An X-IPG can use all eight points during a turn, but cannot generate more than twelve points of ECM through its IPG at any one time.

(XG36.32) An X-IPG generates ECM in jamming mode for six impulses instead of four.

(XG36.33) An X-IPG generates damage in DIW mode out to three hexes instead of two (this distance cannot be voluntarily reduced).

(XH0.0) POWER SYSTEMS

(XH5.1) BATTERIES on X-ships hold three points of power; see (H5.5). This energy can be used one point (or a fraction of a point) at a time or all at once.

(XH6.1) PHASER CAPACITORS: The phaser capacitor on an X-ship is equal to the total energy required to fire each phaser twice. ✯

The destruction of each phaser reduces the capacitor by the amount required to fire that phaser twice.

(XJ0.0) SHUTTLECRAFT

(XJ2.1) X-ADMIN SHUTTLES: Administrative shuttles on X-ships are identical to those on non-X ships. They do not have chaff (XD11.3).

(XJ4.0) FIGHTERS: Only Hydran X-ships carried X-fighters. A few WYN ships carried one or two casual fighters, and the Federation GSX could carry F-18s; see (R2.204). The publication of *Module X1R* introduces more advanced technology ships that operate fighters, however only the Hydrans operated X-fighters.

(XJ8.0) XMRS SHUTTLE: X-ships cannot operate non-X MRS shuttles. XMRS shuttles cannot be operated by non-X-ships.

(XJ8.1) TYPES AVAILABLE

EMPIRE	STANDARD EQUIPMENT INCLUDED
Federation, Klingon, Kzinti	1xPh-3-360°, 1xADD-6, 2 spaces of drones.
Lyran, LDR	2xPh-3-360°, 1xPh-2-360°
Hydran	1xPh-G-360°, 1xPh-2-360°
Romulan, Gorn, ISC	2xPh-3-360°, 2xPlasma-D
Tholian	1xPh-3-360°, 1xPh-2-360°, web spinner

XMRS shuttles can use X-drones if so equipped (see above). The phasers on XMRS shuttles are NOT X-phasers.

(XJ8.5) X-cruisers of all types are eligible to carry an XMRS, but the overall MRS limit in (J8.5) includes XMRS shuttles.

(XJ8.531) Drone-armed X-MRS shuttles include the same drone spaces as non-X-MRS shuttles. These can be exchanged for advanced technology drones as part of the Commander's Options and are otherwise slow drones unless upgraded to faster speeds. For plasma-D-armed X-MRS shuttles these spaces constitute fourteen plasma-Ds and twelve plasma-K torpedoes.

(XK0.0) FAST PATROL SHIPS

No fast patrol ship can have X-technology installed. They were too small to use the technology to any extent and too easily destroyed to be worth the high cost.

(XM0.0) MINES AND MINE WARFARE

(XM0.0) X-MINES: There are no X-mines. Standard non-X mines continue to function.

(XM2.45) X-ships receive the minesweeper bonus.
(XM2.72) The KEX has one NSM.
(XM2.73) XKR-ships in Romulan service use this rule.
(XM2.74) X-ships in Romulan service use this rule.

(XM3.13) T-BOMBS: X-ships carry two more T-bombs (and dummies) than a non-X-ship of the same size class.
This does not apply to X-bases.

(XM7.321) DETECTING MINES: X-ships can detect mines up to ten hexes away.
(XM7.51) X-ships receive the minesweeper bonus for this rule.

(XM8.12) MINESWEEPING: X-ships are considered minesweepers for this purpose.
(XM8.5) X-ships can use rapid-pulse (XE2.43) while sweeping mines. For this purpose, aegis restrictions (M8.54) STILL apply. The phaser can fire multiple shots, but all are rolled for at the same time.

(XP0.0) X-TERRAIN

(XP6.3) NEBULAE: X-ships have minimum shields of ten boxes; see (XD3.33). They can have ten points of specific shield reinforcement and up to ten points of general shield reinforcement.

(XP7.0) WYN RADIATION ZONE: X-ships recover at the same rate as non-X ships.

(XP9.312) GRAVITY WAVES: X-plasma torpedoes entering a gravity wave are considered to have expended a range equal to one-half of the strength of the wave at the time of impact. Round fractions up.

(XR0.0) PARTIAL X-REFITS

The invention of advanced technology, or "X-technology", was not a single event, but a series of interrelated technological developments over a brief period of time. As this technology came into service, many empires considered various ways to implement it.

The best way was to build ships from the start with the technology built in. Another way was to convert an existing "regular production warship" to use the full range of the new technology.

But by far the most common implementation of this technology was the "partial refit" which included only some systems. This could be added to any ship (including "war production ships" and size class 2 ships which could not absorb the full range of X-technology) and any kind of base (including size class 5 bases, which have the same limits as size class 4 ships). These were known as "XP-ships".

During the General War, most (but not all) X-technology went into complete conversions or new construction. Some of it found its way into partial refits. After the General War, however, the changing situation (the ISC cease-fire, then the Andromedan raids that led to a full-scale invasion) caused most empires to accelerate and increase the application of partial X-refits to existing non-X-ships (NX-Ships).

(XR0.1) No XP-ship can have capabilities in excess of an X-ship of similar design operated by the owning empire.
(XR0.2) The cost of XP refits is part of the BPV of the ship and cannot be paid for with Commander's Option points. They are purchased as part of the battle force, and installed on the selected ships. The installation of XP refits does not increase the points available to the ship to purchase Commander's Options; these are purchased based on the pre-XP BPV of the ship.
(XR0.3) Tug-pod combinations cannot exceed the limits available for a single ship, and if the combination is a higher size class, e.g., Federation battle tugs, that class applies.
(XR0.4) XP-refits cannot be applied to X-ships, PFs, fighters, drogues, defense satellites, or mines.
(XR0.5) Captured ships cannot receive partial refits unless converted to use the weapons of the gaining empire; any partial refits installed on them by their previous owners no longer function. Ships owned by one empire and transferred to another empire by any means cannot have partial refits, any previously installed partial refits cease to operate.
(XR0.6) Early Years ships (found in *Module Y1* and some *Captain's Logs*), National Guard ships (found in *Module R8*), and sublight ships cannot be given XP refits.

(XR1.0) PARTIAL X-REFITS: POWER SYSTEMS
(XR1.1) WARP ENGINE UPGRADES
(XR1.11) In simple terms, these did not happen independent of complete X-conversions. XP-ships do not gain additional warp power, and do not have larger or additional warp engines.
(XR1.12) XP-ships do not have any of the maneuver benefits of X-ships. The benefits they do NOT have include Order of Precedence (XC1.313-2), acceleration (XC2.21), Turn Modes (XC3.64), Tactical Maneuvers (XC5.0), High Energy Turns (XC6.0), disengagement (XC7.23), emergency deceleration (XC8.4), positron flywheel (XC9.0), speed changes (XC12.0), docking (XC13.949), or pinwheeling (XC14.211).
(XR1.2) X-BATTERIES
(XR1.21) The most common partial-X refit was to replace the ship's batteries with the new (XH5.1) X-batteries that held additional power (three points instead of one). These function as other X-batteries given the exceptions listed herein.
(XR1.22) The conversion costs two points per battery. No more than four batteries can be replaced on size class 3 ships (six on size class 2 or size class 1, two on size class 4 or on size class 5 bases).
(XR1.23) The ship's power grid is still not that of an X-ship, so no X-battery can deliver more than one point of power in any given impulse or during Energy Allocation.
(XR1.24) These batteries can be used for contingent allocation (H7.6) by transferring one point per impulse over several impulses. If some of the needed points are transferred in this way, there is no obligation to complete the contingent event, but any points transferred cannot be redirected. For example, a ship needs five points of power for an HET but commits only two, planning to make up the other three with reserve warp power. It has only one X-battery and the player determines that an HET will be needed in a few impulses. He transfers one point this impulse and one the next impulse, but then the enemy turns away and he decides to use the third point of power for a tractor beam instead of completing the HET. The two points committed to the HET remain available for that function until the end of the turn, but if the ship has no more reserve power at all they are effectively lost.
(XR1.25) Power can be sent to these X-batteries during Energy Allocation up to their capacity to hold it.
(XR1.26) In the case of X-batteries on a mauler that was not built as an advanced technology ship, each X-battery can only discharge one point per impulse, so in an exception to (E8.321) the bank would still have some power (the extra points in the X-battery in that bank) after firing. This would allow a given bank of mauler batteries on a non-advanced technology mauler to fire more than one "shot". If an X-battery is in a mauler battery bank and the bank is discharged, the X-battery must discharge one point if it is holding a point. (If holding only a fractional point, it must discharge it even if this does no good.) Note that the limitation on replacing batteries in (XR1.22) applies to maulers. They might upgrade one battery in each of several banks, or several batteries in one bank and one battery in another, and so on. They cannot upgrade more than the allowed number of batteries for their size class.
(XR1.3) X-IMPULSE ENGINES
The impulse engines on X-ships were, in reality, not much different from the impulse engines on non-X-ships so there was no partial refit for this system.
(XR1.4) X-REACTORS
(XR1.41) The additional power requirements of X-technology were considerable, and without any other way to increase power on a partial-X-conversion ship, the engineers turned to the new more powerful and more compact reactors. In fact, the reactors on X-ships were of this type (which was roughly half the size of those on a non-X-ship), but given the power production of the X-warp engines, designers did not install additional reactors, using the surplus space for other functions. For non-X-ships, however, it was possible to replace an existing reactor (APR) with two of the new X-reactors.
(XR1.42) Replacing one APR or AWR with two XPRs costs two points. The owner of the ship can change as many or as few of them as his design requires, up to a maximum of four on a size class 3 ship

(two on a size class 4 ship or on a size class 5 base, six on a size class 1 base or size class 2 ship). The box on the SSD produces two points of power, but is still destroyed by a single damage point. If the upgraded auxiliary power system was an AWR, the XPRs will produce warp reactor (not engine) power at no additional BPV cost beyond the two points required.

(XR2.0) PARTIAL X-REFITS: SHIP SYSTEMS

(XR2.1) SHIELDS: The number of shield boxes does not increase, nor do they have larger minimum shields. For a cost, however, the ship gains the following benefits:

(XR2.11) Faster repair of shields (XD9.21) is possible.

(XR2.12) XP shields "leak" normally and do not use (XD3.61). They are X-shields for (XFD14.1).

(XR2.13) XP-ships do not have the critical hit benefit (XD8.1).

(XR2.14) XP-ships do not gain the (XD21.56) catastrophic damage benefit.

(XR2.15) The cost for all of these benefits (as a package) is two points on a size class 4 unit or size class 5 base, four points on a size class 3 unit, and six points on a size class 2 or size class 1 unit.

(XR2.2) CREW: XP-ships use the normal crew rules and have no higher chance of getting a legendary officer than any other NX-ship. They do not use (XG21.0) or (XG22.0).

(XR2.21) XP-ships have double the minimum crew of NX-ships due to the increased maintenance needed (XG9.41).

(XR2.22) Boarding party combat on XP-ships is the same as on NX-ships, i.e., they do not get the benefits of (XD7.0).

(XR2.23) Klingon XP-ships are no less likely to mutiny than NX-ships and do not get the (XG6.0) benefit.

(XR2.3) FIRE CONTROLS: The better fire controls and EW systems of X-ships could not be installed on XP-ships. The conversion was too extensive and virtually required converting the entire ship into a full X-ship.

(XR2.31) XP-ships do not have the X-aegis system (XD13.0), but if they had aegis originally, retain it (as non-X aegis). XP-ships could buy limited (but not full) non-X-aegis at a cost of one point per phaser, type-Gx drone rack, type-G drone rack, or ADD rack on the ship; this added cost is not paid for other types of drone racks or plasma racks.

(XR2.32) XP-ships do not gain the X-tacintel system (XD17.121).

(XR2.33) XP-ships do not gain the X-benefit (XD20.25) in detecting hidden ships.

(XR2.34) XP-ships do not gain the seeking weapon control increase listed in (XF3.2) but can accept transfers of control of X-technology seeking weapons (XF3.5). This costs a surcharge of two points (three points if the ship has double seeking weapons control). If this cost is not paid, the unit cannot be equipped with advanced technology seeking weapons, i.e., any drone rule beginning XFD and any plasma rule beginning XFP cannot be used by the unit.

(XR2.35) XP-ships do not gain the lab benefit (XG4.12).

(XR2.36) XP-ships cannot be computer controlled (XG11.0).

(XR2.37) XP-ships do not get the (XS4.1) benefits for arming status.

(XR2.38) XP-ships do not gain the benefits of (XD6.34) or (XD6.393).

(XR2.4) OTHER EFFECTS:

(XR2.41) Partial X-refits cannot improve the damage control rating of the ship being refitted, e.g., a damage control rating of "2, 2, 2, 0" (highest box on the ship's damage control track) does not become a "4, 2, 2, 2, 0".

(XR2.42) Partial X-refits cannot improve the command rating of the ship being refitted, e.g., a command rating of "8" will not become a command rating of "9".

(XR2.43) Partial X-refits do not increase the docking cost of the ship or change its explosion strength.

(XR2.44) Ships with partial advanced technology refits cannot be used in the Operation Unity Campaign (U6.0).

(XR3.0) PARTIAL X-REFITS: PHASERS

(XR3.1) CONVERSION: Some or all of the phasers on a given ship can be converted to advanced technology. This cannot result in the ship having more advanced technology phaser-1s than the base hull of the ship had phaser-1s and/or phaser-2s. If a variant of a given hull is being converted, all such advanced phaser-1s must be in the same positions occupied by the phaser-1s and/or phaser-2s of the base hull. Other phasers on a variant cannot be upgraded to advanced technology, exception (XR3.12).

EXAMPLE: If a Gorn HDA is converting its phasers to advanced technology, the resulting ship cannot have more advanced phaser-1s than the standard HDD, i.e., five, and only one can be in a 360° mount.

(XR3.11) Some, all, or none of the phaser-1s on an XP-ship can be converted into phaser-1Xs at a cost of one point per phaser, but as noted the ship cannot have more phaser-1Xs than the base hull has phaser-1s and/or phaser-2s.

(XR3.12) Pairs of phaser-3s (with identical firing arcs) can be converted to a single phaser-1X at a cost of one point for each pair of phaser-3s converted to one phaser-1X. Exception: If the ship is a variant of another hull, e.g., an AD5 variant of the D5, the resulting conversion of phaser-3s to advanced technology phaser-1s cannot exceed the number of phaser-1s a conversion of a base hull would provide. For example in the case of a conversion of the phaser-3s on an AD5 the result would be identical to the conversion of a standard D5, the eight phaser-3s would become four phaser-1Xs, one in each wing position and one in each waist position.

(XR3.13) Some or all of the phaser-2s on the XP-ship can be but do not have to be, converted to phaser-1Xs at a cost of two points per phaser, or into phaser-1s at a cost of one point per phaser. Phaser-2s cannot be upgraded to phaser-2Xs. Phaser-1Xs can be hastily repaired (G17.5) as phaser-2Xs or phaser-3Xs.

(XR3.14) All phaser-Gs on an XP-ship remain as phaser-Gs and gain no X-capabilities.

(XR3.15) All phaser-4s on an XP base remain as phaser-4s and gain no X-capabilities.

(XR3.16) Phaser-3s cannot be upgraded to phaser-3Xs.

(XR3.2) CAPABILITY

(XR3.21) All phaser-1Xs on an XP-ship are capable of rapid pulse (XE2.43). However, as XP-ships do not have aegis (unless they had it before their conversion or bought it) they would not be able to re-engage a given target (firing multiple volleys during the same impulse). A phaser-1X on an XP-ship could fire two phaser-3X shots at the same target, but this would be simultaneous. Rapid pulse fire is limited to targets which can be engaged by non-X-aegis (size-6/7) even if the ship doesn't have aegis.

(XR3.22) X-phasers on XP-ships have the larger phaser capacitor of X-ships (XH6.1). Note that phaser-Gs and phaser-4s and any other unconverted phasers do not have larger capacitors.

(XR3.23) Phaser-1X is the best type of phaser on the ship for purposes of (D4.3221).

(XR4.0) PARTIAL X-REFITS: HEAVY WEAPONS

(XR4.1) GENERAL: XP-ships did not gain additional weapons, but did often replace the weapons they had with the X-version of those weapons, for example, X-photons replacing photons, X-disruptors replacing disruptors. XP-ships could not use X-scout systems.

The following ships cannot have their heavy weapons [anything covered by (XR4.0)] upgraded to X-technology: Size class 1 or size class 2 units, pods, and "war production ships" (CW, DW, HDW, and HCW). The Romulan SparrowHawk and SkyHawk, the Gorn BDD, and all NCAs, are not "war production" ships for this purpose. The Klingon F6 and E6 cannot have the added disruptors improved but could improve the original (F5, E4) disruptors.

(XR4.2) REPLACEMENT COST: The cost is paid on a per-weapon basis. The owner of an XP-ship can replace any or all or none of the heavy weapons.

(XR4.21) Replacement of each photon costs six points. This includes increasing the range to 40.

(XR4.22) Replacement of each disruptor costs two points. This includes increasing the disruptors on a size class 3 ship to Range 40 and a size class 4 ship to Range 30. X-disruptors on XP-ships are not penalized by UIM burnout (XD6.54), assuming they have UIMs or bought them normally. XP-ships, of any empire armed with disruptors (whether original equipment or installed in an optional weapons box) can buy UIMs if they have upgraded at least one of their disruptors to an X-disruptor. Any such UIM can control any disruptor on the ship. Non-X disruptors are still penalized by UIM burnout.

(XR4.23) Replacement of each hellbore costs six points. No more than one hellbore can be upgraded on a size class 4 ship or size class 5 base, and no more than two can be upgraded on a size class 3 unit.

(XR4.24) Replacement of each fusion beam costs two points.

(XR4.25) Replacement of each plasma-S with a plasma-M costs four points, cannot be done on size class 4 ships.

Replacement of each plasma-F with a plasma-L costs two points; plasma-Ls can use the carronade rules.

Replacement of plasma-G with plasma-S costs three points; the only size class 4 ships able to have S-torpedoes are X-ships and XP-ships. (This is also allowed for size class 5 bases.)

X-plasmas use the X-plasma rules whether launched by an X-ship or an XP-ship, but note that an XP-ship cannot be equipped with or use advanced plasma torpedoes unless its fire control has been improved (XR2.34).

The cost of the conversion includes the extra PPTs for the converted plasma launchers (L, S, or M).

Plasma-Rs cannot be converted to plasma-RX, not even the plasma-Rs of a base.

Plasma-D racks can be converted to plasma-DX racks; this adds two rack spaces (a total of six plasma-Ds) and a third reload and costs one point per rack.

The refit costs do not include the Sabot Refit (L-torp and plasma-D rack cost one, S-torp costs two, M-torp costs three) which much be purchased separately, but can be purchased with Commander's Option Points. Plasma-D racks have an exception to the restriction in (XR4.1) allowing them to be upgraded on a size class 1 or size class 2 unit as is indicated in (XR8.0).

(XR4.26) Replacement of each plasmatic pulsar device costs four points.

(XR4.27) Replacement of each web caster costs five points.

(XR4.28) Replacement of each web snare costs two points.

(XR4.29) Replacement of each expanding sphere generator costs three points. As an exception to the restriction in (XR4.1) these can be upgraded on a size class 1 or size class 2 unit as is indicated in (XR8.0).

(XR4.3) OTHER HEAVY WEAPONS

(XR4.31) Replacement of each particle cannon costs three points.

(XR4.32) Replacement of each web breaker/shield cracker costs two points.

(XR4.33) Replacement of each warp augmented railgun costs six points.

(XR4.34) Replacement of each medium warp augmented railgun costs three points.

(XR4.35) Replacement of each ion cannon costs six points.

(XR4.36) Replacement of each ion pulse generator costs five points. As an exception to the restriction in (XR4.1) these can be upgraded on a size class 1 or size class 2 unit as is indicated in (XR8.0).

(XR4.37) Ion storm generators, whether large or small, cannot be upgraded in a partial refit.

(XR5.0) PARTIAL X-REFITS: DRONES

(XR5.1) GENERAL: XP-ships can use any X-drones, but this requires replacement of the drone racks themselves as well as changes to the fire control (XR2.34). XP-ships do not gain additional drone racks, just as they do not gain additional phasers or additional heavy weapons.

(XR5.11) The owner of an XP-ship can replace some, all, or none of the drone racks with X-drone racks. Only the X-racks can use X-drones. Each X-rack has a defined reload storage (in the X-ship rules) and comes with those reloads.

(XR5.12 The reloads for fighters and PFs cannot be replaced by X-drones as these units cannot use X-drones.

(XR5.13) Replacement of each ADD with X-ADD costs two points, but these could alternatively be converted to Gx racks for ten points.

(XR5.2) COST OF DRONES: The cost of converting a drone rack is given in (XR5.3) and includes a full load of type-IF (type-I fast, i.e., Speed 32) drones. XP-ships fill their X-racks (and the associated reloads) with type-VII drones by exchanging the type-IF drones for them and paying any additional costs for such exchanges given in Annex #6. General reloads (e.g., on a bombardment ship) or extra drones bought with commander's options are not X-drones unless the higher cost of X-drones is paid. Note that the conversion of an ADD rack to an X-ADD rack includes a full load of standard ADDs; there are no X-ADDs. X-ADD racks use standard ADDs.

(XR5.3) COST OF CONVERSION

Original type	X-rack	Cost of conversion (each)
A, B, C	Cx	6 (limit two per ship)
A, B, G	Gx	10
A, B	Bx	8
D, H	Not convertible	
E	Gx	10
E	Bx	8
ADD	Gx	10
ADD	X-ADD	2

(XR5.4) AVAILABILITY: Special rules apply to the availability of X-drones for purchase as Commander's Options. They are Restricted until Y184 and Limited until Y187. X-drones in X-racks are general availability (although certain warheads might be under specific limitations already in the rules). The limits on special drones under (FD10.6) apply.

(XR5.5) OTHER: X-drones cannot be loaded on non-X shuttles, scatter packs, fighters, or PFs. Exception: X-drones could be loaded on (but not fired from) a non-X shuttle only for the purpose of transporting them to another ship.

(XR6.0) PARTIAL X-REFITS: OTHER SYSTEMS

(XR6.1) CLOAKS: XP-conversions of ships that normally had cloaks could (but did not have to) include the conversion of the ship's cloak to an X-cloak (XG13.0). The BPV cost of this is a fifteen-point surcharge.

(XR6.2) REPAIRS: XP-ships treat their X-systems as do X-ships and their NX-systems as do NX-ships. Thus, an XP-ship uses rule (XD9.7) for its X-systems. Rule (XD14.0) remains in force.

(XR6.3) MINES: XP-ships do not get the (XM7.0) or (XM8.0) benefits regarding mines, and do not carry extra T-bombs (XM3.13).

(XR6.4) TACTICAL INTELLIGENCE: XP weapons (other than drone racks) are detected at tactical intelligence Level K (or, of course, when they fire in a way to display this refit). Other XP refits are detected only when their actions are observed (e.g., limited aegis at Level E, paired phaser-3s replaced by a phaser-1 at Level G, plasma-L/M at Level G, etc.) or non-standard power systems are detected at Level J or any XP change at Level K.

(XR7.0) PARTIAL X-REFITS: FIGHTERS

(XR7.1) X-FIGHTERS did not exist except for the Hydran Stinger-X. Hydran XP-ships can be converted to use Stinger-X fighters but this costs three points per fighter replaced and launch tube converted to launch a Stinger-X. Players may replace the fighters and not the launch tubes and use the landing hatches for a slower launch. No XP-ship can have more than 1/3 of its Stingers replaced by Stinger-Xs, and must replace Stinger-Hs before other types.

(XR7.2) X-MRS: XP-ships cannot operate X-MRS shuttles.

(XR7.3) X-MEGAFIGHTERS: It proved impossible to create X-technology megafighter packs for non-X fighters despite billions of credits in engineering experiments. (Hydran Stinger-X fighters could and did use their own special megapacks.)

(XR8.0) AVAILABILITY LIMITS

For purposes of fleets built under (S8.0) limits, the number of XP-ships that can be in any force is based on the year:

Y181 one ship Y182 two ships
Y183 three ships Y184 four ships
Y185 five ships Y186 six ships
Y187 seven ships Y188 entire force

For purposes of this rule, auxiliaries and monitors count as two XP-ships. After Y188, including an XP auxiliary or monitor would mean one command slot had to be used for a non-X unit or left empty.

(XR9.0) SUMMARY OF PARTIAL X REFITS TABLE

ITEM CONVERTED	RULE #	COST EACH	SC1-2 LIMIT	SC3 LIMIT	SC4 LIMIT	Small Ground Bases
Add Limited Aegis	XR2.31	Rule	varies	varies	varies	varies
ADD X-Aegis	XR2.31	NA	NA	NA	NA	
APR to X-APR	XR1.42	2	6	4	2	2
AWR to X-AWR	XR1.42	2	6	4	2	2
Battery to X-Battery	XR1.22	2	6	4	2	2
Cloak to Cloak-X	XR6.1	15	Once	Once	Once	Once
Disruptor to Disruptor-X	XR4.22	2	NA	All	All	All
Drone Rack A-B-C to Cx	XR5.3	6	2	2	2	2

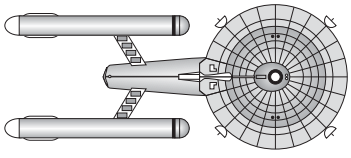
Drone Rack A-B-G to Gx	XR5.3	10	All	All	All	All
Drone Rack A-B to Bx	XR5.3	8	All	All	All	All
Drone Rack ADD to X-ADD	XR5.3	2	All	All	All	All
Drone Rack ADD to Gx	XR5.3	10	All	All	All	All
Drone Rack D, H to ?	XR5.3	NA	NA	NA	NA	NA
Drone Rack E to Gx	XR5.3	10	All	All	All	All
Drone Rack E to Bx	XR5.3	10	All	All	All	All
ESG to X-ESG	XR4.29	3	All	All	All	NA
Fusion to Fusion-X	XR4.24	2	NA	All	All	All
Hellbore to Hellbore-X	XR4.23	6	NA	2	1	1
Impulse to X-Impulse	XR1.3	NA	NA	NA	NA	NA
Ion Cannon to Ion Cannon-X	XR4.35	6	NA	All	All	All
Ion Storm Generator	XR4.37	NA	NA	NA	NA	NA
IPG to IPGX	XR4.36	5	All	All	All	All
Med-WARG to Med-WARGX	XR4.34	3	NA	All	NA	All
PC to PCX	XR4.31	3	NA	All	All	All
Phaser-1 to Phaser-1X	XR3.11	1	rule	rule	rule	rule
Phaser-2 to Phaser-1	XR3.13	1	rule	rule	rule	rule
Phaser-2 to Phaser-1X	XR3.13	2	rule	rule	rule	rule
Phaser-2 to Phaser-2X	XR3.13	NA	NA	NA	NA	NA
Phaser-3 (x2) to Phaser-1X	XR3.12	1	rule	rule	rule	rule
Phaser-3 to Phaser-3X	XR3.12	NA	NA	NA	NA	NA
Phaser-4 to Phaser-4X	XR3.15	NA	NA	NA	NA	NA
Phaser-G to Phaser-GX	XR3.14	NA	NA	NA	NA	NA
Photon to Photon-X	XR4.21	6	NA	All	All	All
Plasma-D to Plasma-DX	XR4.25	1	All	All	All	All
Plasma-F to Plasma-L	XR4.25	2	NA	All	All	All
Plasma-G to Plasma-M	XR4.25	5	NA	All	NA	All
Plasma-G to Plasma-S	XR4.25	3	NA	All	All	All
Plasma-R to Plasma-RX	XR4.25	NA	NA	NA	NA	NA
Plasma-S to Plasma-M	XR4.25	4	NA	All	NA	All
PPD to PPDX	XR4.26	4	NA	All	NA	All
Seeking-X Weapon Control	XR2.34 XR5.1	2	Once	Once	Once	Once
Seeking-X Weapon Double Control	XR2.34 XR5.1	3	Once	Once	Once	Once
Shields to X-Shields	XR2.1	XR2.15	—	—	—	—
WARG to WARGX	XR4.33	6	NA	All	NA	All
Warp to X-Warp	XR1.11	NA	NA	NA	NA	NA
WB to WBX	XR4.32	2	NA	All	All	All
Web Caster to Web Caster-X	XR4.27	5	NA	All	All	All
Web Snare to Web Snare-X	XR4.28	2	All	All	All	All
Web to Web Snare-X	XR4.28	5	All	All	All	All

(XS0.0) SCENARIOS

(XS4.1) WEAPONS ARMING STATUS
(XS4.10) WS-0: Phasers not energized.
(XS4.11) WS-I: Phasers energized, capacitors empty.
(XS4.12) WS-II: Phasers energized, capacitors at 50% of maximum capacity. (This is enough energy to fire all of the phasers.) ✯
(XS4.13) WS-III: Phasers energized, capacitors full. (Every phaser could be fired twice with the energy in the capacitors. There is, of course, no requirement to do so.) ✯
(XS4.22) MODIFIERS: X-ships have a +1 modifier when rolling for WS. This benefit applies only to the X-ship, not to non-X-ships traveling with it, but is cumulative with other modifiers. X-ships cannot be holding fusion beam or disruptor charges at the start of a scenario under any weapon status. X-ships cannot enter a scenario holding armed hellbores at any weapons status; these can only use the rolling delay technique.
(XS4.24) The final result for X-ships can be no more than +3 or less than -2.
(XS8.48) In the case of a fleet composed entirely of X-ships, there can be no more than three heavy cruisers and no more than three light cruisers. Light cruisers may be substituted for heavy cruisers. Size-4 X-ships can be added to or substituted for the cruisers. All X-fleets must operate within the normal rules on command ratings. The Federation may not use more than one GSX; it may use the "free scout" slot but still counts against the limit of heavy cruisers. Advanced technology scouts based on light cruiser/war cruiser hulls can take the "free scout slot", but this is under the same restriction as the Federation GSX, i.e., they count against the allowed total of three light cruiser hulls in the advanced technology battle force. Note that as light cruisers can substitute for heavy cruisers in such a battle force under (XS8.48), a force consisting of (for example) two heavy cruisers, three light cruisers, and one light scout cruiser is legal. Advanced technology carriers, scout carriers, and PF tenders also operate under these restrictions, e.g., a Hydran Cavalier-X counts against the number of heavy cruiser hulls, and a Hydran Vagabond-X would count against the number of light cruiser hulls. For purposes of this rule, advanced technology heavy war destroyers count as a light cruises, not as size class 4 units.

(XSM0.0) X-MONSTERS

Most monster scenarios have a built-in balance factor based on the ship's BPV. Adjust the scenarios for X-ships accordingly.



FEDERATION GSX SURVEY CRUISER

END OF (X0.0) X-SHIP RULES

(Y0.0) EARLY YEARS RULES

The Early Years module covers the period of Y80 to Y120 and can (with minor caveats) be adapted to cover the period of Y67 to Y135.

This was the period of the early warp-driven ships. These early starships were considerably slower and less powerful offensively than the ships that fought in the General War. The style and tempo of combat is considerably different. Most systems were available in this period, but they work over shorter ranges or less effectively.

These Early Years rules modify the basic rules system. Generally speaking, all rules outside of the (Y0.0) section apply except as modified within the (Y0.0) section. Modifications are keyed to the original rules by using a Y prefix to the existing rule number.

Effective Dates: Except where noted, these "early years" rules apply to the W-series and Y-series ships in *Module Y1*. The new ship classes built after Y120 (e.g., Klingon D6, Federation CA, Orion CR) used the "normal" rules found in *Basic Set* and other non-Y products. The Early Years ships (e.g., the YCA, D4, etc.) were never given the new ("normal") technology except where noted. Some changes are obvious; when a ship which has hellbores or ADDs or PPDs on its SSD becomes available on the Master Ship Chart, the Y-rule noting that this weapon is not available obviously no longer applies.

Romulan ships are released from all of their unique "early years restrictions" in Y140, although they do not receive several items of technology until the Treaty of Smarba.

(YA0.0) GENERAL RULES

(YA1.0) INTRODUCTION: During the Early Years period, ships have less firepower (fewer heavy weapons, slow drones, phaser-2 instead of phaser-1, etc.) and less power.

(YA3.1) RULES ORGANIZATION: The rules for the Early Years modify the existing rules. Whenever a modification is required, the rule number for the normal game is listed, with a "Y" in front of it to indicate that this is the Early Years version of the rule. Some but not all rules which have no changes are marked "no changes" as a convenience to players.

(YB0.0) HOW TO PLAY

(YB3.0) ENERGY ALLOCATION: No changes, although it is much simpler due to the number of items not invented yet.

(YC0.0) MOVEMENT

(YC2.0) ENERGY COST: No changes, but because ships in the Early Years period have considerably less energy, they will generally be slower. This is balanced to some extent by the shortage of heavy weapons and lack of overloads.

(YC8.0) EMERGENCY DECELERATION: No change. (While the Federation invented the maneuver in Y63, everyone else copied it almost immediately, so it is available to everyone.)

(YC9.0) POSITRON FLYWHEEL: Not available in Early Years.

(YC11.28) NIMBLE SHIPS in the Early Years period can change speed within eight impulses rather than twelve (YC12.0).

(YC12.0) CHANGING SPEED IN MID-TURN: No more than three speed changes per turn. No speed change can be within twelve impulses of the previous change. (These rules apply to ships in this product such as the D4 and YCA; newer ships such as the D6 and CA use the "normal" rules.)

(YC14.0) THOLIAN PINWHEEL: No changes. The Tholians can use this tactic during Early Years.

(YD1.0) COMBAT

(YD2.0) FIRING ARCS: No changes. The Klingon D4 and F4 have the arcs in (D2.33). The Federation YCA have the firing arcs in (D2.31).

(YD6.0) FIRE CONTROL SYSTEMS
(YD6.31) The maximum amount of energy which a ship can put into ECM and ECCM combined is four points or the current sensor rating, whichever is lower.
(YD6.3144) The maximum EW that can be received by lending is four points of ECM and four points of ECCM.
(YD6.3145) The maximum OEW lending is four points.
(YD6.5) UIM: This device is not available in the Early Years.

(YD8.0) CRITICAL HITS: The number of damage points (D8.1) which can trigger a critical hit is fifteen in Early Years ships.

(YD10.0) POWER ABSORBERS: No Andros in Early Years.

(YD11.0) CHAFF: Romulan Early Years fighters did not use chaff, and there are no other fighters in the Early Years.

(YD13.0) AEGIS: Not available in this time period.

(YD15.87) GROUND COMBAT UNIT SUMMARY

UNIT TYPE	OFFENSIVE POTENTIAL	CASUALTY PTS TO DESTROY	COST BPV
Boarding Party	1	1	0.5
Commando Squad	1	1	1.0
Hvy Wpns Squad	2	1	1.0
Militia Squad	1	1	0.5
Combat Engineer	1	1	1.0
Civilians	0	2	—
GCV	3	3	1.0
GAV	6	3	2.0
Tank	6	6	3.0
Trans-Howitzer	0	3	3.0
Armored Ammo Veh	0	3	2.0
APV	1	3	1.0
CPV	0	3	2.0
CEV	2	3	3.0
Truck	0	1	0.2
Control Station	0	2*	—
GDS	2	2	2.0
Admin Shuttle-Y	0	2†	1.0
Admin Shuttle-S	0	2†	1.0
GAS Shuttle-Y	2	4†	3.0
GAS Shuttle-S	2	4†	2.0
GBS Shuttle-Y	4	4†	3.0
GBS Shuttle-S	4	4†	2.0
HAS Shuttle-Y	4	7†	8.0
HAS Shuttle-S	4	7†	5.0
HFS Shuttle-Y	0	6†	9.0
HFS Shuttle-S	0	6†	5.0
HRS Shuttle-Y	0	6†	9.0
HRS Shuttle-S	0	6†	5.0
HTS Shuttle-Y	0	4†	5.0
HTS Shuttle-S	0	4†	4.0
LVP Shuttle-Y	0	10†	12.0
Pros Shuttle-Y	0	2†	6.0/1.0
Pros Shuttle-S	0	2†	6.0/1.0
RS Shuttle-Y	0	2†	2.0/1.0
RS Shuttle-S	0	2†	2.0/1.0
RSh Shuttle-Y	0	2†	2.0
RSh Shuttle-S	0	2†	2.0
SVS Shuttle-Y	0	2†	2.0
SVS Shuttle-S	0	2†	2.0
VFS Shuttle-Y	0	8†	12.0
VIP Shuttle-Y	0	6†	9.0
VIP Shuttle-S	0	6†	5.0
Rom G-L, LG-1, MN-1	1‡	†	Varies

* To capture; cannot be destroyed. See also (D15.33).
† See (D15.36).
‡ Might be also be fitted with cluster bombs (E20.36).

SHUTTLE GROUND COMBAT VALUES: Sublight and early shuttles are unarmed and have an offensive potential of zero unless noted as having a "ground attack" function on the Master Fighter Chart Annex #4. Early and sublight versions of the GAS have an offensive potential of two. Early and sublight versions of the GBS have an offensive potential of four. Early and sublight versions of the HAS have no change to their offensive potential (four). Romulan G-L fighters have an offensive potential of one and take two "casualty points" to destroy, Romulan G-0 fighters have no offensive potential, but still require two casualty points to destroy. The casualty points needed to destroy other early shuttles are as found in (D15.36).

JINDARIAN EXCEPTION: The Jindarians do not use Early Years or sublight shuttles, they use normal, but not advanced (J17.0) shuttles.

(YD16.0) ADVANCED BOARDING PARTY COMBAT: Diagrams are provided in *Module Y1* for the new ships which are introduced in this product.

(YD17.0) TACTICAL INTELLIGENCE: Early Years ships receive Tactical Intelligence at two levels lower than would normally apply. For example, a ship at Range 20 would normally receive intelligence at level E. In an Early Years ship, it would receive only level C information.

(YD23.0) SHOCK EFFECTS: No ship during the Early Years period suffered from shock effects except the Romulan Veiled Falcon Mauler.

(YE0.0) DIRECT FIRE WEAPONS

(YE1.0) GENERAL RULES: No weapon in Early Years can be overloaded except for Neo-Tholian particle cannons.

(YE2.0) PHASERS
(YE2.11) Type-1 phasers are not available for ships during the Early Years. All ships have phaser-2.

EXCEPTION #1: Tholian ships apparently arrived in this galaxy with phaser-1 technology and use this type of phaser.

EXCEPTION #2: Most bases have ph-1 instead of ph-4.

EXCEPTION #3: Vulcans had ph-1 in the Early Years.

(YE2.15) Type-G phasers are not available in Early Years.

(YE3.0) DISRUPTOR BOLTS
(YE3.5) No overloaded weapons can be used in Early Years ships; e.g., the D4 could not use overloads even if in service in reserve areas decades later. Certain specific exceptions may be noted in other products.
(YE3.6) UIMs and DERFACS are not available in Early Years.

(YE4.0) PHOTON TORPEDOES
(YE4.3) Proximity photons are not available in Early Years.
(YE4.4) No overloaded weapons can be used in Early Years ships.

(YE5.0) ANTI-DRONES: Not available in Early Years.

(YE7.0) FUSION BEAMS: These were not used during the Early Years. Hydran ships mounted the less effective Nova Cannon. Rules for that weapon are provided separately.

(YE8.0) MAULERS: The only mauler available during the Early Years was the Romulan Veiled Falcon, which was regarded as a failed experiment.

(YE9.0) TRACTOR-REPULSOR BEAMS: There are no Andros in Early Years.

(YE10.0) HELLBORES: Not available in the Early Years.

(YE11.0) PLASMATIC PULSAR DEVICE: Not available during the Early Years.

(YE12.0) WEB CASTER: This weapon is available only on the two Neo-Tholian DDs which arrived with the Tholians; both were lost in combat before Y100. The Tholians were unable to copy these weapons until the Neo-Tholian 312th Battle Squadron arrived decades later.

(YE13.0) SNARE GENERATORS: This weapon is not available during the Early Years.

(YE14.0) WEB FIST: This weapon is available only on the two Neo-Tholian DDs which arrived with the Tholians; both were lost in combat before Y100. The Tholians were unable to copy these weapons until the Neo-Tholian 312th Battle Squadron arrived decades later.

(YE15.0) WEB BREAKER: This weapon is not available during the Early Years as the Seltorians had not arrived.

(YE16.0) SHIELD CRACKER: Not available in Early Years as the Seltorians had yet to arrive.

(YE17.0) PARTICLE CANNON: This weapon is available in Early Years, but only on the few Neo-Tholian DDs and FFs and could not be copied by the Tholians until the Neo-Tholian 312th Battle Squadron arrived decades later. Note that, as an exception to the Early Years rules, particle cannons can be overloaded.

(YE20.0) TRANSPORTER ARTILLERY became available in Y67 and was used during the Early Years.

(YE29.0) ION CANNON: This weapon is not currently available during the Early Years, but an Early Years variant might appear in a later product.

(YE30.0) ION PULSE CANNON: This weapon is not available during the Early Years.

(YF0.0) SEEKING WEAPONS

(YF3.0) SEEKING WEAPON GUIDANCE: The maximum range at which seeking weapons can be guided (F3.31) is only 25 hexes in Early Years.

(YFD0.0) DRONES

(YFD1.0) GENERAL RULES: No changes. Type-I drones were first used by the Kzintis and Klingons in Y65.

(YFD2.0) TYPES OF DRONES: Drone types (II, IV, V) were in service in Y77. The Type-III drone became available in Y83. The type-III was built with ATG when it first showed up. The ATG and long range made it expensive and rare. Later a cheaper and less capable ATG was developed, and this could be added to virtually any non-type-III drone frame, although it was still expensive and so not applied to all drones despite the obvious advantage. See (YFD10.0) for more drones. The warhead strength of all drones is reduced by 50% until Y125, after which all drones (including those on older ships) have full warhead strength. As with other drones in the early years, the warhead of a type-VI scores half its normal damage, i.e., one point against ships, and four points against shuttles. The impact of a type-VI drone on another drone will still destroy the drone under (FD1.56).
(YFD2.221) ATG became available in Y126.
(YFD2.222) Extended range became available in Y93.

(YFD3.0) TYPES OF DRONE RACKS: Drone rack types A, B, C, D, and F were in service in Y65. Other types did not become available until after the Early Years. The type-E drone rack was available for service at the same time as other drone rack types but was not operationally deployed. The rack was used to launch type-VI drones to use as targets for other weapon systems and to test developing technologies. In all of Klingon and Kzinti space there may have been only eight type-E drone racks between Y65 and Y93. In Y93 the Kzintis conducted one of the first long-range drone bombardment missions against a Klingon colony planet. While the bombardment did little damage to military installations, the civilian infrastructure was severely impacted. It was later determined that at least one or more Kzinti feudal lords had conducted similar operations against one or more of their neighbors. The search for a solution led to the mounting of type-E drone racks on small ground bases on colony planets that were threatened by such an attack. No colony planet ever had more than two such bases. Both the Klingons and Kzintis deployed these

systems simultaneously. Only the Kzintis mounted any on ships during the early years (self-defense pods and early survey cruisers).

(YFD4.5) OAKDISC: Available Y125 on new classes.

(YFD5.1) ENERGY SEEKING DRONES: Type-VI drones were developed at the same time as other drone types, but were used only for testing and targeting purposes. Their small warhead was not considered worth the bother of mounting them on warships or other installations. The drones were not self-guiding during the early years (the warp-seeking guidance system was not developed until Y122). They operate as normal drones (FD5.3); they have none of the advantages of (FD5.13). If the warhead scores less than 0.5 points of damage against a ship due to electronic warfare, this is rounded down to zero points. If it scores more 0.5 points of damage against a ship despite electronic warfare, this is resolved as one point of damage, i.e., its normal warhead strength against a ship (YFD2.0). They were not operationally deployed until Y95 in response to Kzinti drone bombardment operations with type-IIIXX drones.

(YFD6.0) PROBE DRONES: Not invented until Y152.

(YFD7.0) SCATTER-PACKS: No changes. These were first used in combat in Y81 during the Klingo-Kzinti War.

(YFD8.0) MULTI-WARHEAD DRONES: These were not invented until Y170 and are not used in the Early Years.

(YFD9.0) ECM DRONES: Not invented until Y150.

(YFD10.0) DRONE CONSTRUCTION: Type-II and type-V drones were limited availability (FD10.65) items until Y100, then became restricted availability until Y120, after which they were general availability items.

Type-III drones entered service in Y83 and remained limited available through the Early Years period.

(YFD11.0) SWORDFISH: Not invented until Y174.

(YFD12.0) ARMORED DRONES: Available Y67.

(YFD13.0) SLUG DRONES: Available Y67.

(YFD14.0) SPEARFISH DRONES: Available Y174.

(YFD15.0) STARFISH DRONES: Available Y172.

(YFD16.0) STINGRAY DRONES: Available Y168.

(YFD17.0) STONEFISH DRONES: Available Y168.

(YFD21.0) TYPE-H DRONES: Available Y165.

(YFP0.0) PLASMA TORPEDOES

(YFP2.0) TYPES OF PLASMA TORPEDOES: Only type-G, type-F (with no stasis box, hold cost one), and type-R were available in the Early Years, although these could download some of the other types. The Romulans and Gorns simultaneously developed plasma-F stasis technology in Y120. See (YR13.0) for Inter-Stellar Concordium Early Years plasma restrictions.

(YFP5.0) ENVELOPING PLASMA TORPEDOES: Not available until Y162.

(YFP7.0) PLASMA SHOTGUN: Not invented until Y168.

(YFP8.0) EARLY YEARS PLASMA BOLTS

Romulan ships could use plasma bolts during the period Y66 through Y89 under the following rules. From Y89, they use plasma bolts under the (FP8.0) rules. The Gorns use plasma bolts (only) from Y68 through Y104. Units that can only use bolts do not have PPTs; the PPTs are received with the ability to launch seeking plasma.

(YFP8.1) The maximum true range is five hexes. If a penalty creates an effective range more than five hexes, use the effective range to determined the probability of a hit and the true range to determine the damage. If the true range is greater than five, there is no damage to the target.

(YPF8.2) The cost to arm a plasma bolt is unchanged from the normal rules. They can be fast loaded.

(YFP8.3) The repair cost of a bolt-limited launcher is one half that of a normal (seeking) torpedo launcher (round fractional costs up). Normal launchers cannot be repaired as bolt launchers.

(YFP9.0) TYPE-D TORPEDO: Not invented until Y165.

(YFP10.0) PLASMA RACK: Not invented until Y165.

(YFP11.0) PLASMA SABOT: Not invented until Y180.

(YFP12.0) ECM PLASMA: Not invented until Y168.

(YFP13.0) DOGFIGHT PLASMA-K: Not invented until Y165.

(YFP14.0) PLASMA CARRONADE: Not invented until Y165.

(YG0.0) SHIP'S SYSTEMS

(YG2.0) CONTROL SYSTEMS: There are no changes to these rules, except that some of the systems which cannot be used in an uncontrolled state do not exist in this time period.

(YG4.0) LABS

(YG4.1) RESEARCH: To reflect the lower efficiency of lab equipment during the Early Years, add two to the effective range of all objects of scientific research.

(YG4.2) SEEKING WEAPON IDENTIFICATION: To reflect the lower efficiency of lab equipment during the Early Years, add two to the effective range to all seeking weapons being investigated.

(YG4.3) OTHER LAB FUNCTIONS: No changes.

(YG5.0) PROBES

(YG5.11) Probes in the Early Years have a maximum range of four hexes; each ship carries only three probes per launcher. Survey ships in the early years had probe launchers with double-sized magazines, i.e., the probe launchers on ships designated as survey ships will have six probes.

(YG7.0) TRACTOR BEAMS

Tractor beam technology evolved over time, and many types of tractor beams are seen on Early Years ships. Negative tractor is always available.

(YG7.61) Tractor-S: This was the original sub-light tractor designed for emergency towing of a disabled ship. Range is zero, it functions only in the RA arc (360° on bases), and it can only be used to tow a friendly or captured ship or shuttle. It cannot be used to tractor missiles or drones as the targeting systems cannot deal with the higher speed targets. This was developed by most empires about Y5. (A ship in the same hex with the ship/shuttle it wants to tractor can declare it to be in the RA arc on the second impulse it is in the hex.)

(YG7.62) Tractor-W: Provided to ships with the original tactical warp engines, which entered service in Y62-67 (except for the Romulans). These could function at a range of one hex, but are still limited to towing a friendly or captured ship or shuttle, still function only in the RA arc (360° on bases), and cannot tractor drones or missiles. (A ship in the same hex with the ship/shuttle it wants to tractor can declare it to be in the RA arc on the second impulse it is in the hex.)

(YG7.63) Tractor-Y: The first tactically-useful tractor beam, it could function in a 360° arc, and it could tractor drones, missiles, enemy ships, and other items which later tractor beams could hold. Tractor-Y came into service about Y80 for most empires. The Gorns did not achieve this technology until Y90, and the Romulans never did (obtaining Tractor-Ns from the Klingons after the Treaty of Smarba).

(YG7.64) Tractor-M: An improvement that entered service in Y120. Similar to the Tractor-Y and Tractor-N, it has a range of two hexes, can tractor anything a later tractor can hold, and functions in a 360° arc.

(YG7.65) Tractor-N: This is the type of tractor familiar to *SFB* players of the General War Era; it came into service in Y140-45 (except for the Romulans). It has a range of three hexes, can function in a 360° arc, and can tractor most types of units or objects as per the normal rules.

(YG7.751) A tractor beam cannot rotate an object it is holding to a hex outside of its operating range or area. Thus, Early Years tractors S and W cannot rotate an object outside of their RA arc, while a Y-tractor cannot rotate an object beyond Range 1 and an M-tractor cannot rotate an object beyond Range 2.

(YG8.0) TRANSPORTERS
(YG8.14) The maximum range of transporters in the Early Years was extended over time as the technology improved:
- Y62+: As each empire developed tactical warp technology, the new W-series ships were equipped with transporters which had a range of one hex. Sublight ships generally do not have transporters.
- Y80: Transporters were improved and functioned at a range of two hexes. The Gorns did not achieve this technology until Y90.
- Y100: Improved transporters could reach a range of three hexes.
- Y120: Further improvements pushed transporter range to four hexes.
- Y140: Yet more improvements extended transporter range to five hexes.

(YG10.0) THOLIAN WEB
(YG10.41) During the Early Years, webs deteriorate by two energy points for each hex of web at the end of each turn. This was improved to the standard rate of one point per hex per turn in Y121.

(YG11.0) SUPER COMPUTERS: Not available in Early Years.

(YG12.0) SHIP SEPARATION: If the boom section of a Klingon ship which includes armor (C3, D3, F3) separates, any armor remains with the rear hull.
(YG12.11) The C4 boom needs ten boxes and has the same firing arc changes as a C9. A C3 boom also requires 10 boxes and has the same firing arc changes as the C9. The boom section of a C3 can raise shields of eight boxes in all directions under (G12.331). The boom section of a C4 can raise shields of twelve boxes in all directions under (G12.331). If the center warp engine is dropped, a C4 or C3 boom uses (G12.332).
(YG12.12) The D4, D3, and T4 booms, and variants of those ships, need six boxes (FX phasers become 360°). The shields of D4J and D3J booms are the same as for non-penal booms, i.e., five boxes. The F4 boom cannot separate.
(YG12.13) An F4J or F3J boom requires three boxes. The shields of F4J and F3J booms are the same as for non-penal booms, i.e., five boxes.
(YG12.14) Add rule; A B4 requires sixteen operable boxes to separate its boom. A warp-powered B4 boom will have shields of strength sixteen in all directions under (G12.331).
(YG12.21) The YDN or YBB saucer needs ten boxes and has the same firing arc changes as the DN saucer. The shields of a warp powered Federation YDN or YBB saucer will be twelve boxes in all directions.
(YG12.22) The YCA saucer and variants thereof need seven boxes. LF+L becomes LS; RF+R becomes RS.

(YG13.0) CLOAKING DEVICES: The Romulans did not develop the Cloaking Device until Y140, but they did develop the earlier Masking Device in Y88 and the Veiling Device in Y119. See separate rules on these systems.

(YG14.0) TUGS AND PODS: Research indicates that many empires deployed tugs (with cargo and personnel pods only) during the Early Years periods. These tugs carry, attach, and drop their pods just as later tugs do.

(YG15.0) ORION PIRATE SPECIAL RULES: Orions did not begin openly operating as pirates until Y113.
(YG15.1) The "no surrender" doctrine applies to Early Years pirates and raiders.
(YG15.2) Engine doubling was not available in the National Guard ships or the Y-series raiders.
(YG15.3) Orions did not obtain cloaking devices until after Y140.
(YG15.4) Orions did not have "option mounts" until the CR and other post-Y120 ships. The Y-series raiders and Guard ships used photons, drones, and phasers.
(YG15.5) Early Years Orions can use control as labs.
(YG15.6) Early Years Orions can use gravity landing.
(YG15.7) Early Years Orions did not use fighters.
(YG15.8) The YLR and YCR had a stealth bonus of +1 rather than the +2 seen in later Orions.

(YG16.0) STASIS FIELD GENERATORS: Not available in Early Years.

(YG17.0) REPAIR SYSTEMS: No changes, except that equipment which does not exist cannot be repaired, and equipment cannot be partially repaired to standards that do not exist during the Early Years period.

(YG18.0) DISPLACEMENT DEVICE: There were no Andromedans during the Early Years.

(YG19.0) SATELLITE SHIPS: There were no Andromedans during the Early Years.

(YG20.0) ENERGY MODULES: There were no Andromedans during the Early Years.

(YG21.0) CREW QUALITY: No changes, except that some technology is not available and so is not affected by crew quality.

(YG22.0) LEGENDARY OFFICERS: No changes, except that some technology is not available and so is not affected by Legendary Officers.

(YG23.0) EXPANDING SPHERE GENERATORS
These restrictions apply to the Y-series ships. They would apply to the W-series ships except none of those had ESGs.
(YG23.22) An ESG can hold up to two points of power.
(YG23.24) There are no ESG capacitors in Early Years.
(YG23.41) Radius can be zero or one.

(YG24.0) SCOUT FUNCTIONS: Only bases (not ships) had special sensors during Early Years. (Exception: Vulcans.) These restrictions are removed as of Y134. The Tholians deployed a Scout (under these restrictions) in Y125. Tholian bases were under these restrictions until Y134.
(YG24.13) Lasers, nova cannons, and other Early Years weapons do blind sensors, which were not as resistant to blinding as they were in later years.
(YG24.222) The target drone must be within ten hexes.
(YG24.23) The target drone must be within ten hexes, and the unit controlling the drone must be within 25 hexes.
(YG24.24) The channel can control six weapons to a maximum range of 25 hexes.
(YG24.252) The target weapon must be within ten hexes.
(YG24.26) No change to mine detection.
(YG24.271) The object of study must be within ten hexes.
(YG24.28) The self-lending limit is four points.
(YG24.29) No change to Tac Intel; see (YD17.0).

(YG26.0) WEB ANCHOR: Not available during the Early Years.

(YG27.0) CLOAKED DECOY: Not available during Early Years.

(YG31.0) TEMPORAL ELEVATOR: No Andros.

(YG32.0) PRIME TEAMS: Not available prior to Y125 at this time.

(YG33.0) HDW OPTIONAL SYSTEMS: Not available prior to Y163 at this time.

(YG34.0) DROGUES: Not available prior to Y178.

(YG35.0) ANDRO SMALL SUPPORT UNITS: No Andros.

(YG36.0) ION PULSE GENERATORS: This system is not currently available during the Early Years, but an Early Years variant might appear in a later product.

(YG37.0) ION STORM GENERATORS: This system is not available prior to Y178.

(YH0.0) POWER SYSTEMS

(YH0.0) ALL RULES: No changes.

(YJ0.0) SHUTTLECRAFT

(YJ2.0) ADMINISTRATIVE SHUTTLES: These entered use in Y70 for all empires, except the Romulans and the Inter-Stellar Concordium, along with Ground Attack Shuttles. Prior to that year, all empires except the Inter-Stellar Concordium used sublight shuttles (R4.F0). The Romulans use sublight shuttles until Y160, the Inter-Stellar Concordium used early shuttles beginning in Y30. Shuttles are limited to a speed of four hexes per turn until Y125. There is no adjustment to the BPVs of non-Romulan ships for changing Admin-Y shuttles to Admin-P shuttles. Gorn Early ships do not adjust their BPV for the addition of GAS shuttles.

(YJ2.13) Shuttles during the Early Years period did not have phasers until Y125 and never had lasers. (Exception: Romulan fighters had lasers.)

(YJ2.221) Seeking control systems used by early suicide shuttles were not as robust as those on later shuttles. Suicide shuttles based on early years shuttles (Admin-Y, RSh-Y, etc.) roll a single die for each point of damage applied against them. If any of these die rolls is a "six", the shuttle goes inert. Note that sublight shuttles cannot be used as suicide shuttles (R4.F0).

(YJ2.2211) The maximum power that can be applied to a suicide shuttle is six points, no more than two points per turn.

(YJ3.0) WILD WEASELS: These are available, but produce only four points of ECM and the protected ship must remain within 25 hexes.

(YJ4.0)-(YJ18.0) FIGHTERS: There are no fighters, bombers, SWACS, or MRS shuttles in the Early Years period except for the Romulan sublight fighter. There was no dogfighting in the Early Years. An Early Years shuttle could be forced into a dogfight after such things become possible but could never initiate one as they have no weapons. Remote controls were not available in the Early Years era.

(YK0.0) FAST PATROL SHIPS

Fast Patrol Ships are not available in the Early Years. Some skiffs were available in the Early Years and used a limited version of the Interceptor rules. These ships would also be under all Early Years restrictions.

(YM0.0) MINE WARFARE

(YM1.0) GENERAL RULES: Because of the smaller detection range, mine warfare was fairly uncommon, even if mines were cheaper. (The lower cost zero-radius mines, shown in the Annexes, are not available after Y145, although standard mines could be set to zero detection radius.)

(YM2.0) NUCLEAR SPACE MINES

(YM2.35) The maximum detection radius is zero during Early Years. The target must actually enter the mine's hex to have any chance of detonating it. The development of radius-1 mine triggers in Y145 radically altered the course of mine warfare. The explosion is always the standard size and radius.

(YM3.0) TRANSPORTER BOMBS: Size-3 ships can have no more than two; size-4 ships can have no more than one; size-2 ships can have no more than four. Each T-bomb comes with a separate dummy T-bomb. Early Years ships remain under these restrictions unless published data indicates otherwise; new classes built after Y120 (e.g., D6) are under the "normal" rules. Tholians first began using T-bombs in Y88 and were under the Early Years restrictions until Y121. Their T-bombs, like those of other empires, did not get the radius-1 detonators until Y145. The explosion is always the standard size and radius.

(YM4.0) MINE TYPES AND SIZES

(YM4.4) CAPTOR MINES: These were not invented until after the Early Years period and are not used in this Module.

(YM10.0) POWER ABSORBER MINES: No Andros.

(YE7.0) NOVA CANNON

The Nova Cannon was the primary armament of the Hydran Fleet during the Early Years. Its power is derived from a stream of excited deuterium nuclei that are projected to the target via a trans-light warp. The nuclei are then fused into helium, releasing significant energy at the instant of contact. The weapon is short-ranged but powerful.

The standard Hydran tactic is to move rapidly toward the target, leaving the Nova Cannons uncharged to save power for more speed. The Hydran ship tries to end the turn near the target, then arms and fires its Nova Cannons at the start of the next turn.

The Nova Cannon eventually evolved into the Fusion Beam, but a Fusion Beam cannot be hastily repaired as a Nova Cannon.

(YE7.1) DESIGNATION

(YE7.11) SSD: Each box on the SSD represents a single Nova Cannon. Each such weapon is recorded separately.

(YE7.12) DESTRUCTION: Hydran Nova Cannons are destroyed on "torpedo" hits.

(YE7.13) REPAIR: Each destroyed Nova Cannon requires three points to repair. Fusion beams cannot be repaired as Nova Cannons.

(YE7.14) OTHER DATA: The cost to mount a Nova Cannon in an Orion Option Mount is -0.25 points (i.e., reduces BPV of Orion ship). Nova Cannon are detected at Tactical Intelligence Level F.

(YE7.2) ARMING PROCEDURE

(YE7.21) ENERGY: Charging a Nova Cannon requires one point of power from any source during a single turn.

(YE7.22) COOLING: If the weapon is fired, it requires one turn of cooling and cannot be armed or fired during the game turn after the turn on which it was fired. If the weapon is merely discharged (E1.24), cooling is not required.

EXAMPLE: If a Nova Cannon is fired during any impulse of Turn #1 (no matter whether #1 or #32), it cannot be armed or fired on any impulse of Turn #2.

(YE7.23) HOLDING: Nova Cannons cannot be held in an armed state, but must be fired or discharged (E1.24) shortly after (i.e., on the turn that) they were armed. If the weapon is not fired on the turn it is armed, the weapon is discharged (E1.24) and the energy is lost, but the weapon does not need to cool and can be armed and fired during the next turn.

(YE7.24) RESERVE POWER: Nova Cannons can be fired with reserve power (H7.52).

Nova Cannons can be partially armed with allocated power and then completed at (or prior to) the point of firing with contingent reserve power (H7.6). If this power is not provided and/or the weapon is not fired, the weapon will be discharged and the power will be lost at the end of the turn.

(YE7.3) FIRING NOVA CANNONS

(YE7.31) NOVA CANNON TABLE: Nova Cannon fire is resolved on the NOVA CANNON TABLE, which is found on the SSDs of ships armed with Nova Cannons.

DIE ROLL	RANGE (Hexes)					
	0	1	2	3-8	9-12	13-20
1	7	6	4	2	2	1
2	7	6	4	2	1	1
3	7	6	3	1	1	0
4	7	5	3	1	1	0
5	6	5	2	1	0	0
6	6	4	2	0	0	0

(YE7.32) PROCEDURE: Determine the range to the target. Roll one die, and cross-index the die roll result with the range column. The result is the number of damage points scored.

(YE7.33) CONDITIONS: Nova Cannon are penalized when firing at drones (FD1.52). Nova Cannon are affected by terrain in the same manner as fusion beams, e.g., (P2.541).

(YE7.4) OVERLOADS

Nova Cannons cannot be overloaded.

(YE7.5) HOLDING NOVA CANNONS

Nova Cannons cannot be held. They must be fired or discharged on the turn that they are armed. Nova Cannon are not "multi-turn arming weapons" so a ship cannot enter a scenario "holding" such weapons in an armed state.

(YE21.0) WARP-TARGETED LASERS

Sublight ships used lasers as their "medium-caliber" weapons, much as later ships used phasers. In the "eastern zone", the Gorns, Paravians, and Romulans did not follow the same direct evolutionary path in their technology as the "western powers" and consequently, many ships in this area retained lasers for some time (decades, in the case of the Romulans). These were given advanced targeting systems to allow them to fire at ships moving at faster-than-light speeds with at least some chance of a hit. Lasers in *SFB* operate in the same way as the more familiar phasers except as noted in this rule. Warp-Targeted lasers are not related, in any way, to the warp-tuned lasers in the Magellanic Cloud.

The concept of lasers in Early Years began at a design conference including Steve Petrick, Steve Cole, and Mike Strain. The rules below bear little relation to the early design.

(YE21.1) DESIGNATIONS

(YE21.11) SSD: Each box marked "LASER" or "LSR" or "LAS" on the SSD represents one laser mount.

(YE21.12) DESTRUCTION: Lasers are destroyed on "phaser" hits and use the phaser directional restriction rules (D4.321).

(YE21.13) REPAIRS: Lasers cost two points to repair. Lasers cannot be hastily repaired as fighter-mounted lasers. Phasers cannot be hastily repaired as lasers.

(YE21.14) ORIONS receive a one-point BPV reduction for each laser placed in an option mount.

(YE21.2) OPERATIONS

(YE21.21) ARMING: Lasers require one point of power for each shot. This power can come from any source on the ship. Lasers have a capacitor system (H6.0) identical to that used by phasers.

(YE21.22) FIRING: Lasers are fired in the Direct Fire Weapons Stage (6D), and each can fire a maximum of once per turn and cannot fire twice within 1/4 turn. Roll one die for each laser fired and cross-index the result on the chart in (YE21.3).

(YE21.23) RANGE: The maximum true range of a laser is two hexes. The laser chart has a column designated as "P" which is used in cases where various firing penalties might ordinarily cause a shot to be treated as firing at a higher range bracket (e.g., no lock-on, target on passive fire control, etc.) Multiple penalties still are resolved on the "P" column.

(YE21.24) TARGETS: Lasers can fire at (and damage) any target a phaser can be fired at (and damage). They can be fired at and damage a "receding target" which is, technically, faster than the pulse of light the laser fires. They will damage asteroids (P3.25), plasma torpedoes (FP1.61), and ships in the same manner as phasers. They are not penalized when firing at drones (FD1.51). They suffer the same (P2.541) effects as Phasers when firing through an atmosphere.

(YE21.3) WARP-TARGETED LASER TABLE

RANGE	0	1	2	P
1	3	2	2	1
2	2	2	2	1
3	2	2	1	1
4	2	2	1	0
5	2	1	0	0
6	1	1	0	0

(YE21.4) FIGHTER-MOUNTED LASERS

Romulan sublight fighters carried this type of laser, which is less powerful than ship-mounted lasers.

(YE21.41) OPERATIONS: Fighter-mounted lasers operate in the same manner as ship-mounted lasers except as noted.
(YE21.411) They have a maximum true range of one; use the "P" column if a penalty (such as a target on passive fire control or firing without a lock-on) would normally force the die roll to be on a higher range bracket. It can fire one shot per turn.
(YE21.412) The laser cannot fire once the fighter is crippled. It is repaired when the fighter is repaired at no additional cost.

(YE21.42) POWER: Fighters do not pay to arm this weapon, nor does it need to be rearmed by deck crews.

(YE21.43) FIGHTER-MOUNTED LASER TABLE

RANGE	0	1	P
1	2	1	1
2	1	1	0
3	1	1	0
4	1	1	0
5	1	0	0
6	1	0	0

(YE22.0) QUANTUM CANNON

This weapon was used by the Paravians prior to their adopting the Quantum Wave Torpedo.

(YE22.1) DESIGNATIONS

(YE22.11) SSD: Each box marked "QC" on the SSD represents one Quantum Cannon mount.

(YE22.12) DESTRUCTION: Quantum Cannon are destroyed on "torpedo" hits on the DAC and are considered to rank below Quantum Wave Torpedoes (D4.3222).

(YE22.13) REPAIRS: QCs cost four points to repair. A Quantum Wave Torpedo cannot be hastily repaired as a Quantum Cannon.

(YE22.14) OTHER DATA: Cost in Orion option mounts = 0.25.

(YE22.2) OPERATIONS

(YE22.21) ARMING: QCs require two points of power for each shot. This power can come from any source on the ship. Once armed, the weapon cannot be held and must be fired or discharged by the end of the turn.

(YE22.22) FIRING: QCs are fired in the Direct Fire Weapons stage (6D), and each can fire a maximum of once per turn. Roll two dice and compare the total to the chart below; if a hit is scored, record the indicated amount of damage for that range. It cannot fire twice within a period of 1/4 turn. When firing at drones, it is penalized by (FD1.52). When firing through terrain, it is affected as a plasma bolt, e.g., (P2.542). When fired at cloaked ships, use effective range for the probability of a hit and the true range to determine the damage caused.

(YE22.3) QUANTUM CANNON COMBAT TABLE

RANGE	0-2	3-5
TO HIT	2-9	2-7
DAMAGE	7	6

(YE23.0) DISRUPTOR CANNON

The Disruptor Cannon is a version of the disruptor used by the Carnivons. Unlike the Disruptor Bolts used by the Lyrans, Klingons, Kzintis, and others, the Disruptor Cannon is a two-turn-arming weapon. It is, for game purposes, literally a disruptor that uses twice as much power, fires half as often, and does twice as much damage. The Kzintis might have adopted it as their primary weapon except that it proved impossible to overload this weapon while the faster-firing Disruptor Bolt could be overloaded.

All rules for the Disruptor Cannon are the same as those for the Disruptor Bolt except as noted herein.

(YE23.1) DESIGNATION

(YE23.11) SSD: Each "DC" box on the SSD represents one Disruptor Cannon. Each is recorded and fired separately.

(YE23.12) DAMAGE: Disruptor cannon are destroyed by "torpedo" damage points.

(YE23.13) REPAIR: Each Disruptor cannon requires a variable amount of repair points under (D9.7) or (G17.0) depending on the maximum range:

Range 30 8 points
Range 22 7 points
Range 15 5 points
Range 10 4 points

These are the same repair costs as disruptor bolts. Hasty repairs can be used but produce weapons of shorter range.
Disruptor Cannons cannot be repaired as disruptor bolts, and disruptor bolts cannot be repaired as disruptor cannons.

(YE23.14) ORIONS cannot use Disruptor cannons.

(YE23.15) TACTICAL INTELLIGENCE: Disruptor cannon cannot be distinguished from disruptor bolts (and vice versa) until tactical intelligence level I.

(YE23.16) DAMAGE PRIORITY: For purposes of (D4.3222), disruptor cannon count as the next item better than a disruptor bolt of the same range.

(YE23.2) ARMING PROCEDURE

(YE23.20) PROCEDURE: Disruptor cannon are fired by the following procedure. Two units of energy are allocated for each cannon on each of two consecutive turns. Armed cannon can be held in an armed state by using what amounts to rolling delay (YE23.24).
(YE23.201) If energy is allocated to a disruptor cannon and the arming is not completed with allocated power on the next turn, the original arming energy is lost. Reserve power cannot be used for the second turn of arming because the weapon will have already self-discharged when no allocated power was provided.

(YE23.21) SOURCE: Energy to fire a disruptor cannon can come from any source. This can be allocated or (for the first turn only) reserve power. Contingent reserve could be used on the first turn of arming but not the second.

(YE23.22) FIRING: Disruptor cannon are fired during the Direct-Fire Weapons Stage of the Impulse procedure. There is no counter (i.e., playing piece) for a disruptor cannon shot. Their effect is determined by die roll and resolved immediately.

(YE23.23) RATE: A given disruptor cannon cannot be fired more often than once every second turn (due to the arming cycle).

(YE23.24) HOLDING: If the arming of a disruptor cannon has been completed during a given turn, and the cannon is not fired or discharged on that turn, then the original first turn arming energy is lost. The energy from the second turn of arming remains in the weapon and can be counted as the first turn of a new arming cycle.

(YE23.3) FIRING PROCEDURE

(YE23.31) PROCEDURE: The number of damage points scored by a disruptor cannon is determined by the range, the firing characteristics of the weapon being fired, other factors such as EW, and a die roll. Refer to the DISRUPTOR CANNON CHART (YE23.4).

There is only one row on the Disruptor Cannon Chart because it cannot be overloaded and there are no advanced fire control systems (DERFACS, UIM) in the Early Years.

Determine the range and find which bracket on the range line includes this range. Then roll one die. If the result is within the "hit" numbers listed (inclusive) then the weapon has scored the number of damage points on the damage line for that range. If the result is a miss, no damage was scored.

(YE23.32) RANGE: The maximum range of a Disruptor Cannon varies with the size of the ship firing it, as larger ships provide a more stable firing platform with better (read: more expensive) fire controls. All Disruptor Cannon on a given ship will have the same range (unless one has been the subject of a hasty repair).
(YE23.321) Disruptor cannon cannot be fired at Range Zero.

(YE23.33) RANGE EFFECTS: When the effective range of a disruptor cannon shot is different from the true range, use the effective range to determine the probability of a hit and the true range to determine the number of damage points scored.

(YE23.4) DISRUPTOR CANNON COMBAT CHART

RANGE	0	1	2	3-4	5-8	9-15	16-22
TO HIT	NA	1-5	1-5	1-4	1-4	1-4	1-3
DAMAGE	0	10	8	8	6	6	4

(YE23.5) DISRUPTOR CANNON OVERLOADS are not available in Early Years.

(YE23.6) ADVANCED FIRE CONTROL SYSTEMS are not available in Early Years.

(YE24.0) HEEL NIPPER

The "Heel Nipper" (more properly the Warp Field Interruption Device, although this term is rarely used) was used by the Carnivons as part of their system of engaging enemy starships in combat. The weapon, which was very short ranged, would disrupt the warp field of an enemy starship, causing it to momentarily drop out of warp and, in some cases, involuntarily turn.

(YE24.1) DESIGNATION

(YE24.11) SSD: Each "HN" box on the SSD represents one Heel Nipper weapon. Each such weapon is recorded and fired separately.

(YE24.12) DAMAGE: Heel Nippers are destroyed on "drone" damage points.

(YE24.13) REPAIR: Heel nippers cost three points to repair. There is no hasty repair function for the heel nipper.

(YE24.14) ORIONS cannot use heel nippers. They were never able to figure out the technology. If used in the simulators, the cost is +1.0.

(YE24.15) TACTICAL INTELLIGENCE: Heel nippers will be distinguished from other weapons at level F.

(YE24.16) DAMAGE PRIORITY: For purposes of (D4.3222), heel nippers count as just better than a starbase ADD.

(YE24.2) ARMING PROCEDURE

(YE24.20) PROCEDURE: Heel nippers are armed by the following procedure. One unit of energy is allocated to the heel nipper to arm the weapon. Each point of energy fires the weapon one time. No more than one point of energy can be applied to the weapon each turn.

(YE24.21) SOURCE: Energy to arm a heel nipper must be warp power. It can be allocated or reserve power.

(YE24.22) FIRING: Heel nippers are fired in the Direct Fire Weapons Stage (6D) of the Impulse Procedure. There is no counter (i.e., playing piece) for a heel nipper shot. The effect of a heel nipper shot is determined and resolved immediately.

(YE24.23) RATE OF FIRE: Each heel nipper can be fired only once per turn. A given heel nipper may not fire more than once in any period of eight consecutive impulses.

(YE24.24) HOLDING: Armed heel nippers cannot be held and fired on a later turn. If a heel nipper is not fired on the turn it is armed, it is automatically discharged (E1.24) at the end of the turn and the energy applied to it is lost and cannot be regained. Discharge does not constitute firing the weapon and does not delay firing the weapon (with different energy) on the next turn.

(YE24.25) OVERLOADS: There is no overload function of the heel nipper.

(YE24.3) FIRING PROCEDURE

(YE24.30) PROCEDURE: The heel nipper is a "hit or miss" weapon. To determine if it has hit, determine the range to the target, designate which warp engine on the target ship is the target of the heel nipper, and roll one die. [If the target has no warp engines, the heel nipper cannot affect it. Heel nippers do not affect AWRs.] If the resulting die roll is within the designated range on the "hit" line of the heel nipper chart for that range, the weapon has hit the target. The effect of a hit is resolved as per (YE24.31).

(YE24.31) EFFECT OF A HIT: In the event that the heel nipper strikes the target, the following effects are resolved:

1. One point of damage is scored on the targeted warp engine. This damage is scored on the warp engine regardless of any shields, PA panels, or armor the targeted ship has.

2. The target loses its next scheduled impulse of movement or its next warp Tactical Maneuver. Orbital movement and movement caused by terrain or a tractor beam is not affected.

3. The target is involuntarily forced to turn (YE24.32) [but not move] on the next impulse, and its Turn Mode and sideslip mode are reset to zero. Any directed Turn Mode (C3.8) accumulation is lost.

There are no other effects.

(YE24.311) If the target is not moving by warp power, including warp Tactical Maneuvers, the only affects of the heel nipper are to damage a warp engine box (if the target has a warp engine box that was a target of the heel nipper) and block the use of a plotted Warp Tactical Maneuver between the heel nipper's use and the availability of the next warp Tactical Maneuver.

(YE24.312) Heel nippers do not affect reserve power, so reserve warp power could be used by the target to execute an High Energy Turn or a warp Tactical Maneuver on the impulse following a heel nipper hit.

(YE24.313) Heel nipper damage will not block a sublight Tactical Maneuver, nor will it affect the movement of a unit moving solely by impulse power (YE24.30), although it will damage a warp engine box on such a unit if the targeted warp engine has such a box.

(YE24.314) The mechanics of heel nippers are such that if multiple heel nippers strike a target on the same impulse, only one has any effect; the others have no effect as a result of interference.

(YE24.315) As heel nippers do not block High Energy Turns, a unit struck by a heel nipper being forced to turn or not turn normally can use an allocated or reserve High Energy Turn to overcome this on the subsequent impulse.

(YE24.316) This does not modify the unit's practical or effective speeds, nor does it reduce the unit's maneuver rate.

(YE24.317) Heel nippers will not cause any engine damage if the engine they are firing at has already been destroyed, but the unit would still be forced to turn (or not turn in the case of a center warp engine) in the appropriate direction, or lose its next Tactical Maneuver if it is using warp power for movement or Tactical Maneuvers.

(YE24.318) Heel nipper damage to a unit's warp engines will still be caused even if the unit is not otherwise using power from its warp engines for movement, i.e., is moving solely under impulse power or as a result of a tractor link to another unit. If a unit is moving solely on Impulse power (not using its warp engines to generate movement), it will be forced to turn in the direction required as a result of the last heel nipper in a given turn to hit it on Impulse #31.

(YE24.319) If a ship has no warp engines, either because it never had them or because they have been destroyed or dropped, it is unaffected by heel nipper damage, and will not be forced to turn.

(YE24.32) INVOLUNTARY TURN: Which engine was hit determines the direction of an involuntary turn:

Left warp engine: ship turns left.

Center warp engine: ship does not turn.

Right warp engine: ship turns to right.

(YE24.321) Note that in the case of a Gorn ship, both engines are actually "center" even though one is designated "right" and the other is designated "left" for purposes of the DAC.

This does not modify the unit's practical or effective speeds, nor does it reduce the unit's maneuver rate.

(YE24.322) Heel nippers will not cause any engine damage if the engine they are firing at has already been destroyed, but the unit would still be forced to turn (or not turn in the case of a center warp engine) in the appropriate direction, or lose its next Tactical Maneuver if it is using warp power for movement or Tactical Maneuvers. Heel nipper damage to a unit's warp engines will still be caused even if the unit is not otherwise using power from its warp engines for movement, i.e., is moving solely under impulse power or as a result of a tractor link to another unit. If a unit is moving solely on Impulse power (not using its warp engines to generate movement), it will be forced to turn in the direction required as a result of the last heel nipper in a given turn to hit it on Impulse #31. If a ship has no warp engines, either because it never had them or because they have been destroyed or dropped, it is unaffected by heel nipper damage, and will not be forced to turn.

(YE24.323) When playing with plotted movement (C1.32), resolution of the heelnipper takes precedence and the movement plot is adjusted to most closely conform to its original intent (even if the final directions have nothing to do with the player's intent when he plotted the movement). The conformation must adhere to the ship's turn and side-slip modes, which are reset by the heelnipper (YE24.31-3). Side-slips will take place in the revised movement order where they would occur, except that if a conflict results in a side-slip and a turn occurring on the same impulse, the turn takes precedence and the side-slip is canceled.

EXAMPLE: A Lyran YCA is moving Speed 15 giving it a Turn Mode of four. The Lyran YCA had a plotted move of six hexes in direction A, four hexes in direction B, four hexes in direction C, and two hexes in direction B.

On Impulse #11, after its fifth hex of movement, the Lyran YCA is hit by a heelnipper, turning it to face in direction F (YE24.31-3). The ship was next scheduled to move on Impulse #13, but this move is canceled and lost (YE24.31-2), so the ship will next move on Impulse #15 (unless the ship uses Emergency Deceleration, is tractored by or tractors another ship or base, or is hit by another heelnipper). The ship was scheduled to turn on Impulse #13, but as its Turn Mode was reset, it cannot turn, and must instead move in direction F for its next four movement pulses (Impulses #18, #20, #22, and #24). Having satisfied its Turn Mode, the ship must now make its plotted turn in direction B on Impulse #26, even though this turn was originally plotted to take place on Impulse #15, and the turn will not face it in direction A once again rather in direction B.

(YE24.33) MAXIMUM RANGE: The maximum range of the heel nipper is two hexes.

(YE24.331) In cases in which the true range and the effective range are different, use the true range to determine the chance of a hit. If the true range is two or less and the effective range is three or more, treat the range as "two hexes" for both purposes.

(YE24.34) OTHER TARGETS

(YE24.341) If fired at a shuttle, and a hit is scored, count effect #1 as one point of damage to the shuttle, resolve effect #2 normally, and count effect #3 as if the shuttle had "center warp".

(YE24.342) If fired at a drone or missile, and a hit is scored, count effect #1 as one point of damage to the drone, resolve effect #2 normally, and count effect #3 as if the drone had "center warp". The heel nipper is an unpenalized weapon under (FD1.51).

(YE24.343) Heel nippers cause no damage to and have no effect on: terrain, units without warp engines, plasma torpedoes or similar weapons unaffected by disruptors, or mines. Heel nippers fired at units inside an atmosphere only damage their engines under (YE24.31-1). Such units are not forced to turn, nor do they lose their next scheduled impulse of movement through the atmosphere. In short, a shot from a heel nipper cannot cause a unit in atmosphere to crash into a planet (except through destruction of the last power box enabling powered flight), or exit the atmosphere.

(YE24.344) If a target that would otherwise be affected is docked to a base or has landed on a planet, moon, or large asteroid, ignore effects #2 and #3. If the target is trapped in a web, ignore effect #3 but note that effect #2 may delay escape from the web.

(YE24.345) If a monster is hit by a heel nipper, it suffers all of the effects that a ship would suffer. These are, in the case of some monsters, all but irrelevant.

(YE24.4) HEEL NIPPER COMBAT CHART

RANGE	0	1	2
TO HIT	1-5	1-4	1-3

(YE25.0) PLASMA BLASTER

The Korlivilar developed plasma blasters as a heavy weapon for use by their military. The weapon is a branch of plasma torpedo development that was ultimately a dead end, but served the Korlivilar well enough as the early wars between the different nations that would eventually coalesce into the Inter-Stellar Concordium drew to a close. The plasma blaster is, in effect, a cross between the plasma bolt and the plasma carronade. It is relatively short-ranged, but suited the close-in fighting style favored by the Korlivilar.

(YE25.1) DESIGNATION

(YE25.11) SSD: Each plasma blaster is abbreviated on the SSD as PBL. Each plasma blaster is fired and damaged individually.

(YE25.12) DESTRUCTION: Plasma blasters are destroyed by "torpedo" damage points on the DAC.
(YE25.121) DAMAGE PRIORITY: Plasma blasters come between plasma-V torpedo launchers and plasma-D torpedo racks (D4.3222).

(YE25.13) REPAIR: A plasma blaster takes five damage control points to repair. No hasty repair option is available.

(YE25.14) TECHNOLOGY RESTRICTIONS: Plasma blasters are Korlivilar early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.
(YE25.141) Plasma blasters require one option mount and can be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in the simulators.
(YE25.142) It costs zero BPV to put plasma blasters in the option mounts of Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) units under Annex #8B. It costs five BPV to place plasma blasters in the rear-firing option mounts of HDWs under Annex #8H for use in the simulators.

(YE25.15) SIZE CLASS RESTRICTIONS: Except as follows, there are no size class restrictions on plasma blasters:
(YE25.151) Plasma blasters were never used on shuttles or fighters, but if such is done in a simulator, they will be limited to a maximum range of ten hexes.

(YE25.1511) No size-1 fighter or shuttle could have more than one such weapon carrying two charges. A size-2 fighter might have two such weapons, each with two charges. A size-3 medium bomber might have three such weapons (with two charges each). A size-4 heavy bomber might have four such weapons (with two charges each).

(YE25.1512) No weapon carried by a fighter or bomber can fire more than one charge in any given turn or within a quarter-turn of firing a charge on the previous turn.

(YE25.1513) Re-arming plasma blasters on a fighter or shuttle would be done in the same manner as reloading disruptor charges (J4.84).

(YE25.1514) Heavy fighters and medium bombers may fire a maximum of two plasma blasters during a given turn, on the same or different impulses, at the same or different targets. Heavy bombers may fire a maximum of three plasma blasters during a given turn, on the same or different impulses, at the same or different targets. In all cases, a plasma blaster fired in the last eight impulses of a preceding turn counts against the plasma blaster firing rate during the first eight impulses of a given turn. For example, a plasma blaster fired on Impulse #26 of Turn #1 by a medium bomber would prevent it from firing two plasma blasters on Impulse #1 of Turn #2 (it could fire one), although it could fire two plasma blasters on Impulse #2 (assuming it had two armed plasma blasters).

(YE25.152) Plasma blasters were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Plasma blasters carried by such a unit would have a maximum range of ten hexes. No other size class 5 unit, except for a ground-based defense station, can be equipped with the weapon; this includes, but is not limited to, skiffs and modular cutters.

(YE25.153) Plasma blasters on defense satellites or captor mines would be able to fire out to their maximum range within the normal rules for such units, e.g., a captor mine is limited to a range of six hexes (M4.424) unless command-controlled or chain-linked to a sensor mine (M4.432).

(YE25.16) CREW QUALITY, LEGENDARY OFFICERS: Plasma blasters are treated as phasers for the purposes of super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0).

(YE25.17) TACTICAL INTELLIGENCE: Plasma blasters are detected as plasma weapons at Tactical Intelligence Level F (D17.4), i.e., they are not differentiated from other plasma weapons such as plasma torpedoes or plasma cannons. Plasma blasters can be distinguished from other weapon types at Tactical Intelligence Level G. Whether a given plasma blaster is armed or not can be determined at Tactical Intelligence Level L.

(YE25.2) ARMING PROCEDURE

(YE25.21) ENERGY: Plasma blasters require two points of energy from any source in order to be fired. The weapon can fire once each turn (provided it is armed), but not within a quarter turn (eight impulses) of being fired on a previous turn. If the weapon is not fired by the end of the turn, any energy in the weapon is lost (discharged) (E1.24). Discharging the weapon does not count as firing the weapon, and if the weapon is discharged at the end of a previous turn it could be armed and fired on the first impulse of a subsequent turn.

(YE25.22) HOLDING: Plasma blasters cannot be held. Any energy allocated to a plasma blaster during a given turn is lost (YE25.21) if the weapon is not fired before the turn ends.

(YE25.23) RESERVE ENERGY: If not armed during Energy Allocation, the weapon can be fired using reserve energy under the provisions of (H7.5), provided it is not fired any sooner than eight impulses of being fired on a previous turn. The weapon can be armed with contingent energy (H7.6), i.e., have part of its arming cost paid during Energy Allocation with the remaining energy needed to fire the weapon being supplied by reserve energy during the turn. If the weapon is not fired by the end of the turn, any energy in the weapon is lost (discharged) (E1.24).

(YE25.24) WEAPONS STATUS: Plasma blasters are not multi-turn arming weapons and cannot hold energy from previous turns; in this they operate as disruptors do. Unless otherwise noted by special scenario rules, a given plasma blaster can have energy allocated to it during any Energy Allocation Phase or through reserve energy and be fired on the same turn regardless of the Weapons Status of the ship.

(YE25.25) BLINDING SENSOR CHANNELS: Plasma blasters blind sensor channels (G24.13).

(YE25.3) FIRING PROCEDURE

(YE25.31) PROCEDURE: Plasma blasters are fired in the PPD Step of the Direct-Fire Weapons Fire Stage (6D2). Roll a single die, and cross-reference the die roll result with the range column of the plasma blaster being fired. The result is the number of damage points scored.
(YE25.311) Plasma blasters score their damage before all other weapons except PPDs. Plasma blasters that qualify as a single volley under (D4.22) are combined into a single volley and resolved. If there is more than one volley of plasma blaster fire to be resolved, the largest volley is resolved first as per (D4.34). Damage by other weapons is resolved after all plasma blasters have been resolved.
(YE25.312) If plasma blasters are fired at the same time as PPDs (this can only happen in the simulators), they are all resolved before the first plasmatic pulsar burst is resolved. Note that all plasma blaster fire that can be resolved as a single volley is resolved as single volley, but each PPD pulse is resolved as a separate volley (E11.332). If two plasma blasters fired by the same ship hit a target's #1 shield and at the same time two plasmatic pulsar pulses strike that shield, it would be resolved as three volleys: one being the two

plasma blasters, and two more each composed of a single plasmatic pulsar pulse.

(YE25.32) PLASMA BLASTER FIRING TABLE

DIE ROLL	RANGE 0	1	2	3	4-8	9-12	13-15
1	8	7	6	5	4	3	2
2	7	6	5	4	3	2	1
3	6	5	4	3	2	1	0
4	5	4	3	2	1	0	0
5	4	3	2	1	0	0	0
6	3	2	1	0	0	0	0

(YE25.33) MAXIMUM RANGE: The maximum range of a plasma blaster is fifteen hexes.
(YE25.331) In a case where the true range and the effective range differ, use the effective range to determine the range bracket on the chart, and use the procedure in (YE25.31).

(YE25.34) FEEDBACK DAMAGE: This weapon only does feedback damage under the rules provided in the Qixavalor Cloud (OP1.0) and against the Loriyill flame shield (OG1.0).

(YE25.35) OVERLOADS: Plasma blasters cannot be overloaded.

(YE25.4) SPECIAL CASES

(YE25.41) TERRAIN: Plasma blasters cannot be fired through a hex containing a planet (P2.321), moon [Exception: (P2.3221)], black hole (P4.23), pulsar (P5.32), or star (P12.1). They can be fired into such a hex. They can be fired through ring (P2.223) and asteroid (P3.33) hexes with the standard EW penalties.

(YE25.42) ATMOSPHERES: If a plasma blaster is fired at a target in an atmosphere (including a target in the same hex as the firing ship), add one to the die roll in (YE25.31) for each hex of atmosphere hex the line of fire passes through (E1.8); this is cumulative with other modifiers.

(YE25.43) SIZE CLASS 7 TARGETS:
(YE25.431) Plasma blasters are subject to the penalties of (FD1.51) when firing at drones.
(YE25.432) Plasma blasters do not damage plasma torpedoes.
(YE25.433) Plasma blasters are penalized by (M8.52) if used to sweep mines.

(YE25.44) WEBS: Plasma blasters cannot fire through webs (G10.61), and cannot damage them. They can be fired out of webs, and can damage targets in a web hex to which they have a clear line of fire.

(YE25.45) NON-VIOLENT COMBAT: Plasma blasters cannot use Non-Violent Combat (D6.4).

(YE25.46) ESGs: Plasma blasters do not interact with ESGs in any way, i.e., they do not damage ESG fields and ESG fields do not block the fire of plasma blasters.

(YE26.0) PLASMA CANNON

The Rovillians developed plasma cannons as a heavy weapon for use by their military. The weapon, much like the plasma blaster, is a branch of plasma torpedo development that was ultimately a dead end. The plasma cannon is a directional discharge of a superheated slug of matter that is just barely contained in an energy shell. The inability of the Rovillians to perfect the energy shell resulted in a constant dissipation of the weapon's energy potential, greatly limiting the weapon's range. The Rovillians adapted the weapon to their ships despite considering it to be in the prototype stage.

(YE26.1) DESIGNATION

(YE26.11) SSD: Each plasma cannon is abbreviated on the SSD as PLC. Each plasma cannon is fired and damaged individually.

(YE26.12) DESTRUCTION: Plasma cannons are destroyed by "torpedo" damage points on the DAC.
(YE26.121) DAMAGE PRIORITY: Plasma cannons come between disruptor cannon-15 and disruptor-15 (D4.3222).

(YE26.13) REPAIR: A plasma cannon takes six damage control points to repair. There is no hasty repair option available.

(YE26.14) TECHNOLOGY RESTRICTIONS: Plasma cannons are Rovillian early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.
(YE26.141) A plasma cannon requires one option mount and can be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in the simulators.

(YE26.142) It costs zero BPV to put a plasma cannon in the option mounts of Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) units under Annex #8B. It costs five BPV to place plasma cannons in the rear-firing option mounts of HDWs under Annex #8H for use in the simulators.

(YE26.15) SIZE CLASS RESTRICTIONS: Except as follows, there are no size class restrictions on plasma cannons:
(YE26.151) Plasma cannons were never used on shuttles or fighters, but if such is done in a simulator, they will be limited to a maximum range of ten hexes.

(YE26.1511) A size-1 fighter or shuttle could have one plasma cannon armed with a single charge. A size-2 fighter might have two plasma cannons, each with a single charge. A size-3 medium bomber might have three plasma cannons (with one charge each). A size-4 heavy bomber might have four plasma cannons (with one charge each).

(YE26.1512) Re-arming plasma cannons on a fighter or shuttle would be done in the same manner as reloading photon torpedoes on fighters (J4.85), except that there are no additional fuze settings (J4.853) and the energy to charge the freezer can come from any source.

(YE26.1513) Heavy fighters and medium bombers may fire a maximum of two plasma cannons during a given turn, on the same or different impulses, at the same or different targets. Heavy bombers may fire a maximum of three plasma cannons during a given turn, on the same or different impulses, at the same or different targets. In all cases, a plasma cannon fired in the last eight impulses of a preceding turn counts against the plasma cannon firing rate during the first eight impulses of a given turn. For example, a plasma cannon fired on Impulse #26 of Turn #1 by a medium bomber would prevent it from firing two plasma cannons on Impulse #1 of Turn #2 (it could fire one), although it could fire two plasma cannons on Impulse #2 (assuming it had two armed plasma cannons).

(YE26.152) Plasma cannons were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Plasma cannons carried by such a unit would have a maximum range of ten hexes. No other size class 5 unit, except for a ground-based defense station, can be equipped with the weapon; this includes, but is not limited to, skiffs and modular cutters.
(YE26.153) Plasma cannons on defense satellites or captor mines would be able to fire out to their maximum range within the normal rules for such units, e.g., a captor mine is limited to a range of six hexes (M4.424) unless command-controlled or chain-linked to a sensor mine (M4.432).

(YE26.16) CREW QUALITY, LEGENDARY OFFICERS: Plasma cannons are treated as phasers for the purposes of super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0).

(YE26.17) TACTICAL INTELLIGENCE: Plasma cannons are detected as plasma weapons at Tactical Intelligence Level F (D17.4), i.e., they are not differentiated from other plasma weapons such as plasma torpedoes or plasma blasters. Plasma cannons can be distinguished from other weapon types at Tactical Intelligence Level G. Whether a given plasma cannon is being armed, and the amount of energy currently in the individual weapon mounts, can be determined at Tactical Intelligence Level L.

(YE26.2) ARMING PROCEDURE

(YE26.21) ENERGY: Each plasma cannon requires two points of energy from any source on each of two consecutive turns in order to be fired. If the weapon is armed with less than four points of energy at the end of the second turn's Energy Allocation Phase, it is immediately discharged (E1.24). Contingent energy allocation (H7.6) cannot be used to complete the second turn's arming. The weapon can fire once every other turn (provided it is armed).

(YE26.22) HOLDING: Plasma cannons cannot be held; instead they use a form of rolling delay as hellbores do (E10.22). If not fired on the second turn of arming, the weapon loses the first turn of arming, and the second turn of arming becomes the first turn of arming in the arming cycle. If additional arming energy is not provided at the start of the third turn then the arming energy for the second turn of arming is also lost at that point. Lost arming energy is "discharged" (E1.24), and must be announced along with the amount of energy discharged by each weapon, when it occurs. A plasma cannon that discharges its energy during Energy Allocation can begin arming in mid-turn with reserve energy (YE26.23).

(YE26.23) RESERVE ENERGY: A plasma cannon can begin arming in mid-turn by applying two points of reserve energy.
(YE26.231) A plasma cannon that begins arming with reserve energy must either be completed in the subsequent Energy Allocation Phase, or discharged (E1.24). If the weapon is completed with allocated energy during the subsequent Energy Allocation Phase, it cannot be fired within a quarter turn (eight impulses) of when the reserve energy was allocated to begin arming on the previous turn.
(YE26.232) Plasma cannons can begin their first turn of arming with contingent energy (H7.6), i.e., allocating only a part of the first turn's arming energy planning to apply the rest from reserve energy in mid-turn. If the additional arming energy is not provided, the contingent energy is discharged (E1.24) at the end of the turn. If reserve energy is applied to the contingent energy, and the weapon is completed during the subsequent Energy Allocation Phase, the weapon cannot be fired unless a quarter turn (eight impulses) has elapsed from the point where the reserve energy was applied to complete the first turn's arming.

(YE26.24) WEAPONS STATUS: At Weapons Status 0 or Weapons Status I the weapon has no energy in it.

At Weapons Status II or Weapons Status III the unit can be assumed to have completed the first turn's arming (or to be cycling its plasma cannons on rolling delay).

The player controlling the unit may, at Weapons Status II or Weapons Status III, at his option, define the weapons as not currently armed unless a special scenario rule requires that the weapons have been armed. Note the obverse is also true, i.e., a special scenario rule may define that the unit's plasma cannons are not armed despite the unit being at a high Weapons Status.

(YE26.25) BLINDING SENSOR CHANNELS: Plasma cannons blind sensor channels (G24.13).

(YE26.3) FIRING PROCEDURE

(YE26.31) PROCEDURE: Plasma cannons are fired in the Direct-Fire Weapons Fire Stage (6D2). Roll a single die, and cross-reference the die roll result with the range column of the plasma cannon being fired. The result is the number of damage points scored.

(YE26.32) PLASMA CANNON FIRING TABLE

DIE ROLL	RANGE 0	1	2	3	4-8	9-12	13-15
1	12	10	9	8	6	4	3
2	12	10	8	6	4	3	2
3	12	10	8	6	4	3	1
4	12	8	6	4	2	2	0
5	10	8	6	4	2	0	0
6	10	8	6	4	0	0	0

(YE26.33) MAXIMUM RANGE: The maximum range of a plasma cannon is fifteen hexes.
(YE26.331) In a case where the true range and the effective range differ, use the effective range to determine the range bracket on the chart, and use the procedure in (YE26.31).

(YE26.34) FEEDBACK DAMAGE: This weapon only does feedback damage under the rules provided in the Qixavalor Cloud (OP1.0) and against the Loriyill flame shield (OG1.0).

(YE26.35) OVERLOADS: Plasma cannons cannot be overloaded.

(YE26.4) SPECIAL CASES

(YE26.41) TERRAIN: Plasma cannons cannot be fired through a hex containing a planet (P2.321), moon [Exception: (P2.3221)], black hole (P4.23), pulsar (P5.32), or star (P12.1). They can be fired into such a hex. They can be fired through ring (P2.223) and asteroid (P3.33) hexes with the standard EW penalties.

(YE26.42) ATMOSPHERES: Plasma cannons reduce their strength by 25% (of the original strength) for each hex of atmosphere. The 25% loss for a second (or subsequent) hex of atmosphere is cumulative with previous hexes, i.e., deduct 50% for two hexes, 75% for three, and 100% for four or more. Round fractions down when calculating the loss (strength six, 25% loss is 1.5, drop the .5, result is five, loss is one).

(YE26.43) SIZE CLASS 7 TARGETS:
(YE26.431) Plasma cannons are subject to the penalties of (FD1.51) when firing at drones.
(YE26.432) Plasma cannons do not damage plasma torpedoes.
(YE26.433) Plasma cannons are penalized by (M8.52) if used to sweep mines.

(YE26.44) WEBS: Plasma cannons cannot fire through webs (G10.61), and cannot damage them. They can be fired out of webs, and can damage targets in a web hex to which they have a clear line of fire.

(YE26.45) NON-VIOLENT COMBAT: Plasma cannons cannot use Non-Violent Combat (D6.4).

(YE26.46) ESGs: Plasma cannons do not interact with ESGs in any way, i.e., they do not damage ESG fields and ESG fields do not block the fire of plasma cannons.

(YE27.0) PLASMA-VORTEX LAUNCHER

The Pronhoulites developed plasma technology into the plasma-vortex launcher. The weapon was very flexible, and was able to fire rapidly with small increments of energy, or more slowly with massive bursts of energy. This allowed Pronhoulite ships to either dance around their opponents or close in to deliver a solid hammering. The weapon showed some promise of further development, but was discarded after the formation of the Concordium in favor of further development of seeking torpedoes, which it was believed would be more effective against Space Boars.

(YE27.1) DESIGNATION

(YE27.11) SSD: Each plasma-vortex launcher is abbreviated on the SSD as PVL. Each plasma-vortex launcher is fired and damaged individually.

(YE27.12) DESTRUCTION: Plasma-vortex launchers are destroyed by "torpedo" damage points on the DAC.
(YE27.121) DAMAGE PRIORITY: Plasma-vortex launchers come between light hypercannon and disruptor cannon-15 (D4.3222).

(YE27.13) REPAIR: A plasma-vortex launcher takes eight damage control points to repair. A plasma-vortex launcher can be hastily repaired for four damage control points under (G17.5), but the weapon can only operate with two points of energy (YE27.3). A hastily repaired plasma-vortex launcher cannot be fully repaired later in a scenario unless it is destroyed again. A hastily repaired plasma-vortex launcher can be fully repaired between the rounds of a campaign game as part of the normal campaign repairs.

(YE27.14) TECHNOLOGY RESTRICTIONS: Plasma-vortex launchers are Pronhoulite early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.
(YE27.141) Plasma-vortex launchers require two adjacent centerline option mounts and cannot be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in simulators.
(YE27.142) It costs one BPV to put a plasma-vortex launcher in the option mounts of Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) units under Annex #8B. It costs seven BPV to place plasma-vortex launchers in the rear-firing option mounts of HDWs under Annex #8H for use in the simulators.

(YE27.15) SIZE CLASS RESTRICTIONS: Except as follows, there are no size class restrictions on plasma-vortex launchers:
(YE27.151) Plasma-vortex launchers were never used on shuttles or fighters, but if such is done in a simulator, they will be limited to a maximum range of ten hexes if one charge is used. If both charges in a single plasma-vortex launcher are used, the weapon will have a maximum range of four hexes.

(YE27.1511) No size-1 fighter or shuttle could have more than one such weapon carrying a maximum of two charges. A size-2 fighter might have two such weapons, each with two charges. A size-3 medium bomber might have three such weapons (with two charges each). A size-4 heavy bomber might have four such weapons (with two charges each).

(YE27.1512) If a plasma-vortex launcher carried by a fighter or bomber fires a single charge, it cannot fire the second charge in the same turn, or within a quarter-turn of firing the charge on the previous turn.

(YE27.1513) Re-arming plasma-vortex launchers on a fighter or shuttle would be done in the same manner as reloading disruptor charges (J4.84).

(YE27.1514) Heavy fighters and medium bombers may fire a maximum of two plasma-vortex launchers during a given turn, on the same or different impulses, at the same or different targets. Heavy bombers may fire a maximum of three plasma-vortex launchers during a given turn, on the same or different impulses, at the same or different targets. In all cases, a plasma-vortex launcher fired in the last eight impulses of a preceding turn counts against the plasma-vortex launcher firing rate during the first eight impulses of a given turn. For example, a plasma-vortex launcher fired on Impulse #26 of Turn #1 by a medium bomber would prevent it from firing two plasma-vortex launchers on Impulse #1 of Turn #2 (it could fire one), although it could fire two plasma-vortex launchers on Impulse #2 (assuming it had two armed plasma-vortex launchers).

(YE27.152) Plasma-vortex launchers were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Plasma-vortex launchers carried by such a unit would have a maximum range of ten hexes. No other size class 5 unit, except for a ground-based defense station, can be equipped with the weapon; this includes, but is not limited to, skiffs and modular cutters.
(YE27.153) Plasma-vortex launchers on defense satellites or captor mines would be able to fire out to their maximum range within the normal rules for such units, e.g., a captor mine is limited to a range of six hexes (M4.424) unless command-controlled or chain-linked to a sensor mine (M4.432).

(YE27.16) CREW QUALITY, LEGENDARY OFFICERS: Plasma-vortex launchers are treated as phasers for the purposes of super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0).

(YE27.17) TACTICAL INTELLIGENCE: Plasma-vortex launchers are detected as plasma weapons at Tactical Intelligence Level F (D17.4), i.e., they are not differentiated from other plasma weapons such as plasma torpedoes or plasma cannons. Plasma-vortex launchers can be distinguished from other weapon types at Tactical Intelligence Level G. Whether a given plasma-vortex launcher is being armed, and the amount of energy currently in the individual weapon mounts, can be determined at Tactical Intelligence Level L.

(YE27.2) ARMING PROCEDURE

(YE27.21) ENERGY: A plasma-vortex launcher requires two points of energy to arm, for each of either one, two, or three consecutive turns of arming. It can be fired on the first, second, or third turn of arming. Each turn of arming is referred to as an arming level.
(YE27.211) A plasma-vortex launcher can be armed for two points of energy and fired every turn. If the weapon is fired, or if the energy in it is discharged (E1.24) by the end of the turn, the weapon may be armed and fired normally on the following turn.
(YE27.212) If a plasma-vortex launcher is armed, and not fired or discharged on the previous turn, two more points of energy can be allocated to it on the following turn during Energy Allocation. If this energy is not added during Energy Allocation, the weapon is discharged (it may not be fired during that turn).
(YE27.213) If a plasma-vortex launcher has been armed during Energy Allocation on two consecutive turns and has not been fired (or discharged) by the end of the second turn, an additional two points of energy may be provided to the weapon during Energy Allocation of the third consecutive turn. If this energy is not added during Energy Allocation, the weapon is discharged (it may not be fired during that turn).
(YE27.214) If a plasma-vortex launcher that has been armed over three consecutive turns is not fired by the end of the third turn of arming, the weapon must be discharged (it cannot be held). The weapon can begin arming normally on the following turn, and can be fired normally in that turn (or begin accumulating energy over consecutive turns again).
(YE27.215) Once armed to a given arming level, a plasma-vortex launcher's arming status is irreversible. A plasma-vortex launcher armed to the third arming level cannot be fired at the first or second arming levels.
(YE27.216) Lost arming energy is "discharged" (E1.24) and this must be announced along with the amount of energy discharged by each weapon, when it occurs.
(YE27.217) The weapon can fire once every turn (provided it is armed) at its lowest level, or once every other turn at its intermediate arming level, or once every third turn at its maximum arming level. If fired on consecutive turns (firing a shot on a following turn at its lowest arming level) it cannot be fired within a quarter turn (eight impulses) of being fired on the previous turn.

(YE27.22) HOLDING: A plasma-vortex launcher cannot be held past the third turn of arming, but incurs no additional holding cost as energy is added on each consecutive turn. If the first turn of arming is provided, and the plasma-vortex launcher is not fired during that turn, the plasma-vortex launcher must either have the second turn of arming provided during Energy Allocation of the subsequent turn or be discharged (YE27.216). If the second turn of arming is provided, and the plasma-vortex launcher is not fired during that turn, the plasma-vortex launcher must either have the third turn of arming provided during Energy Allocation of the subsequent (third turn since arming began) turn or be discharged (YE27.216). If the plasma-vortex launcher is not fired during the third turn of arming, it will be discharged automatically (YE27.216) at the end of that turn.

(YE27.23) RESERVE ENERGY: A given plasma-vortex launcher may be armed with reserve energy if it has not been fired on the current turn (H7.5). Energy may be applied to a plasma-vortex launcher insufficient to begin arming the weapon (first turn's arming only) and be completed with reserve energy using contingent energy allocation (H7.6).
(YE27.231) If a plasma-vortex launcher begins arming in a turn and is not fired, it must continue arming with allocated energy during the following Energy Allocation Phase or the energy in the weapon is discharged. If the weapon does not have enough energy in it to complete the first turn of arming by the end of a turn, the energy in the weapon is discharged. Lost arming energy is "discharged" (E1.24), and must be announced along with the amount of energy discharged by each weapon, when it occurs.
(YE27.232) The arming cycle of the plasma-vortex launcher does not allow reserve energy to be added to the weapon in mid-turn except to begin arming the weapon on its first turn of arming.

(YE27.24) WEAPONS STATUS: Unless special scenario rules provide otherwise, a ship may have the following energy status in each of its plasma-vortex launchers at the following Weapons Status:

Weapons Status	Plasma-Vortex Launcher Arming
0 or I	Plasma-Vortex Launchers Empty
II	First Turn's Arming Energy
III	First or Second Turn's Arming Energy

A player may voluntarily choose to have his plasma-vortex launchers armed to a lower level at any Weapons Status unless special scenario rules specify otherwise.

(YE27.25) BLINDING SENSOR CHANNELS: Plasma vortex-launchers blind sensor channels (G24.13).

(YE27.3) FIRING PROCEDURE

(YE27.31) PROCEDURE: Plasma-vortex launchers are fired in the Direct-Fire Weapons Fire Stage (6D2). Roll a single die, and cross-reference the die roll result with the range column and the appropriate row for the amount of energy that the plasma-vortex launcher being fired is armed with. The result is the number of damage points scored.

(YE27.32) PLASMA-VORTEX LAUNCHER FIRING TABLE

DIE ROLL	RANGE 0	1	2	3	4-8	9-12	13-15	
1-2	6	5	4	3	2	1	1	**TWO**
3-4	6	5	4	3	1	1	0	**POINTS**
5-6	5	4	3	2	1	0	0	**OF ENERGY**
1-2	12	10	8	6	4	3	2	**FOUR**
3-4	11	9	7	5	3	2	1	**POINTS**
5-6	10	8	6	4	2	1	0	**OF ENERGY**
1-2	17	15	12	9	6	4	3	**SIX**
3-4	16	14	10	8	4	3	2	**POINTS**
5-6	15	13	9	6	3	2	1	**OF ENERGY**

(YE27.33) MAXIMUM RANGE: The maximum range of a plasma-vortex launcher is fifteen hexes.

(YE27.331) In a case where the true range and the effective range differ, use the effective range to determine the range bracket on the chart, and use the procedure in (YE27.31).

(YE27.35) FEEDBACK DAMAGE: If a plasma-vortex launcher armed with six points of energy is fired at a true range of zero, the firing unit receives six points of feedback damage on its shield that is facing the target. This does not reduce the damage scored on the target. The plasma-vortex launcher will do feedback damage under the rules provided in the Qixavalor Cloud (OP1.0) and against the Loriyill flame shield (OG1.0) irrespective of its level of arming (and in addition to any feedback as a result of firing at Range zero with six points of energy).

(YE27.36) OVERLOADS: Plasma-vortex launchers cannot be overloaded.

(YE27.4) SPECIAL CASES

(YE27.41) TERRAIN: Plasma-vortex launchers cannot be fired through a hex containing a planet (P2.321), moon [Exception: (P2.3221)], black hole (P4.23), pulsar (P5.32) or star (P12.1). They can be fired into such a hex. They can be fired through ring (P2.223) and asteroid (P3.33) hexes with the standard EW penalties.

(YE27.42) ATMOSPHERES: Plasma-vortex launchers reduce their strength by 25% (of the original strength) for each hex of atmosphere. The 25% loss for a second (or subsequent) hex of atmosphere is cumulative with previous hexes, i.e., deduct 50% for two hexes, 75% for three, and 100% for four or more. Round fractions down when calculating the loss (strength six, 25% loss is 1.5, drop the .5, result is five, loss is one).

(YE27.43) SIZE CLASS 7 TARGETS:
(YE27.431) Plasma-vortex launchers are subject to the penalties of (FD1.51) when firing at drones.
(YE27.432) Plasma-vortex launchers do not damage plasma torpedoes.
(YE27.433) Plasma-vortex launchers are penalized by (M8.52) if used to sweep mines.

(YE27.44) WEBS: Plasma-vortex launchers cannot fire through webs (G10.61), and cannot damage them. They can be fired out of webs, and can damage targets in a web hex to which they have a clear line of fire.

(YE27.45) NON-VIOLENT COMBAT: Plasma-vortex launchers cannot use Non-Violent Combat (D6.4).

(YE27.46) ESGs: Plasma-vortex launchers do not interact with ESGs in any way, i.e., they do not damage ESG fields and ESG fields do not block the fire of plasma-vortex launchers.

(YE28.0) HELLGUN

The hellgun is yet another example of the Hydran development of fusion technology. It fires an ultra-velocity fusion bomb. Hellguns first appeared in early Y78 (it is possible that prototypes might have been deployed earlier), but were seen primarily on refitted WDNs (YDNs) and WCCs (YCCs). The weapon was never encountered on bases during the fall of the Kingdom in Y87, and it was never seen after that date. There are competing theories as to why this was so. One theory holds that the weapon was simply too complex, or the materials needed to manufacture it were too rare, for any wider deployment, and the Hydrans chose to mount them on offensive units (ships) rather than defensive units (bases) that might never come under attack. Another theory holds that a single guild held the patent and restricted the numbers that could be built for its own reasons (perhaps so that it could charge more for the weapon after it was combat proven). Another theory holds that the government was too cheap to purchase more of the weapons. Another theory (regarded as the most unlikely) is that the few weapons deployed were found in a cache of weapons belonging to an older and now vanished empire (this theory is only supported by the fact that the weapon was unlike anything the Hydrans had deployed prior to Y78).

For reasons that are not entirely clear, but might be supported by several of the theories, the Hydrans did not continue manufacturing hellguns in the Lost Colonies after the Kingdom fell, but instead developed nova cannons into fusion beams (YE7.0). How the ability to build hellguns was lost is yet another mystery. It is known that not a single working copy was to be found in the Old Colonies (the last ship armed with them was lost in a rear guard action during the retreat to the Old Colonies). It is possible (although unlikely) that there was no source for rare materials needed to make the gun. Or that the guild that had the patent lost its files in one of the disasters before the final fall. The most favored reason is simple industrial sabotage of one guild by another (or several others) so corrupting the known data that it was nearly impossible to recreate the weapon without starting from scratch. That effort would take decades even if various research facilities were not being raided by one guild or another.

The weapon may have re-appeared at some point, but the Hydrans were committed to the fighter and fusion combat model by that time, and the weapon languished in various labs until a scientist combined the bomb with a magnetic field around Y155.

(YE28.1) DESIGNATION

(YE28.11) SSD: Each hellgun is abbreviated on the SSD as HG. Each hellgun is fired and damaged individually.

(YE28.12) DESTRUCTION: Hellguns are destroyed by "drone" damage points on the DAC.
(YE28.121) DAMAGE PRIORITY: Hellguns come between neutron guns and magazines of type-D drone racks (D4.3223).

(YE28.13) REPAIR: Hellguns cost fifteen damage control points to repair under (D9.7) and (G17.0), there is no hasty repair. Hellbores (E10.0) cannot be repaired as hellguns, nore can hellguns be repaired as hellbores.

(YE28.14) TECHNOLOGY RESTRICTIONS: Hellguns are Hydran early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.
(YE28.141) Hellguns require one option mount and cannot be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in the simulators.
(YE28.142) It costs two BPV to put a hellgun in the option mount of an Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) unit under Annex #8B. It costs eight BPV to place hellguns in a rear-firing option mounts of an HDW under Annex #8H for use in the simulators.

(YE28.15) SIZE CLASS RESTRICTIONS: Hellguns cannot be used in the option mounts of size class 4 units. Except as follows, there are no other size class restrictions on hellguns:
(YE28.151) Hellguns were never used on shuttles or fighters, but if such is done in a simulator, they will be limited to a maximum range of ten hexes.

(YE28.1511) No size-1 fighter or shuttle could have more than one such weapon carrying a single charge. A size-2 fighter might have two such weapons, each with a single charge. A size-3 medium bomber might have three such weapons (with one charge each). A size-4 heavy bomber might have four such weapons (with one charge each).

(YE28.1512) Re-arming a hellgun on a fighter or shuttle is done in the same manner as reloading hellbore charges (J4.834).

(YE28.1513) Heavy fighters and medium bombers may fire a maximum of two hellguns during a given turn, on the same or different impulses, at the same or different targets. Heavy bombers may fire a maximum of three hellguns during a given turn, on the same or different impulses, at the same or different targets. In all cases, a hellgun fired in the last eight impulses of a preceding turn counts against the hellgun firing rate during the first eight impulses of a given turn. For example, a hellgun fired on Impulse #26 of Turn #1 by a medium bomber would prevent it from firing two hellguns on Impulse #1 of Turn #2 (it could fire one), although it could fire two hellguns on Impulse #2 (assuming it had two armed hellguns).

(YE28.152) Hellguns were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Hellguns carried by such a unit would have a maximum range of ten hexes. No other size class 5 unit, except for a ground-based defense station, can be equipped with the weapon; this includes, but is not limited to, skiffs and modular cutters.
(YE28.153) Hellguns on defense satellites or captor mines would be able to fire out to their maximum range within the normal rules for such units, e.g., a captor mine is limited to a range of six hexes (M4.424) unless command-controlled or chain-linked to a sensor mine (M4.432).

(YE28.16) CREW QUALITY, LEGENDARY OFFICERS: Hellguns are treated as photon torpedoes for the purposes of super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0).

(YE28.17) TACTICAL INTELLIGENCE: Hellguns are detected as heavy weapons at Tactical Intelligence Level F (D17.4). Hellguns can be distinguished from other weapon types at Tactical Intelligence Level G. Whether a given hellgun is being armed, and the amount of energy currently in the individual weapon mounts, can be determined at Tactical Intelligence Level L.

(YE28.2) ARMING PROCEDURE

(YE28.21) ENERGY: Each hellgun requires three points of energy from any source on each of two consecutive turns in order to be fired. If the weapon is armed with less than three points of energy at the end of the second turn's Energy Allocation Phase, it is immediately discharged (E1.24). Contingent energy allocation (H7.6) cannot be used to complete the second turn's arming. The weapon can fire once every other turn (provided it is armed).

(YE28.22) HOLDING: Hellguns cannot be held; instead they use a form of rolling delay as hellbores do (E10.22). If not fired on the second turn of arming, the weapon loses the first turn of arming, and the second turn of arming becomes the first turn of arming in the arming cycle. If additional arming energy is not provided during the Energy Allocation Phase at the start of the third turn then the arming energy for the second turn of arming is also lost at that point. Lost arming energy is "discharged" (E1.24), and must be announced along with the amount of energy discharged by each weapon, when it occurs. A hellgun that discharges its energy during Energy Allocation can begin arming in mid-turn with reserve energy (YE28.23).

(YE28.23) RESERVE ENERGY: A hellgun can begin arming in mid-turn by applying three points of reserve energy.
(YE28.231) A hellgun that begins arming with reserve energy must either be completed in the subsequent Energy Allocation Phase, or discharged (E1.24). If the weapon is completed with allocated energy during the subsequent Energy Allocation Phase, it cannot be fired within a quarter turn (eight impulses) of when the reserve energy was allocated to begin arming on the previous turn.
(YE28.232) Hellguns can begin their first turn of arming with contingent energy allocation (H7.6), i.e., allocating only a part of the first turn's arming energy planning to apply the rest from reserve energy in mid-turn. If the additional arming energy is not provided, the contingent energy is discharged at the end of the turn. If reserve energy is applied to the contingent energy, and the weapon is completed during the subsequent Energy Allocation Phase, the weapon cannot be fired unless a quarter turn (eight impulses) has elapsed from the point where the reserve energy was applied to complete the first turn's arming.

(YE28.24) WEAPONS STATUS: At Weapons Status 0 or Weapons Status I the weapon has no energy in it.

At Weapons Status II or Weapons Status III the unit can be assumed to have completed the first turn's arming (or to be cycling its hellguns on rolling delay).

The player controlling the unit may, at Weapons Status II or Weapons Status III, at his option, define the weapons as not currently armed unless a special scenario rule requires that the weapons have been armed. Note the obverse is also true, i.e., a special scenario rule may define that the unit's hellguns are not armed despite the unit being at a high Weapons Status.

(YE28.25) BLINDING SENSOR CHANNELS: Hellguns blind sensor channels (G24.13).

(YE28.3) FIRING PROCEDURE

(YE28.31) PROCEDURE: Hellguns are fired in the Direct-Fire Weapons Fire Stage (6D2). The fire of a hellgun is resolved on the Hellgun Combat Resolution Table, which is found on the SSDs of ships armed with hellguns and is below (YE28.33). The procedure is as follows: Determine the range and roll two dice. If the total of the dice is equal to or less than the hit number shown on the chart for that range, the weapon has hit the target, scoring the indicated amount of damage for that range. For example, at a range of six a die roll total of eight (or less) would be a hit, but a die roll total of nine (or more) would be a miss.

(YE28.32) DAMAGE PROCEDURE: Hellguns score their damage along with all other direct-fire weapons not otherwise resolved separately, i.e., at the same time as phasers, disruptors, etc. in the Direct-Fire Weapons Damage Resolution Stage (6D4). Their damage is not scored as a separate volley, but as part of the same volley as other weapons striking the same shield at the same time (D4.22).

(YE28.33) HELLGUN COMBAT RESOLUTION TABLE:

RANGE	0	1	2	3-4	5-8	9-15	16-22
HIT#	N/A	11	10	9	8	7	6
DAMAGE	N/A	10	8	7	6	5	4

(YE28.34) MAXIMUM RANGE: The maximum range of a hellgun is twenty-two hexes.
(YE28.341) In a case where the true range and the effective range differ, use the effective range to determine the range bracket on the chart, and use the procedure in (YE28.31).

(YE28.35) MINIMUM RANGE: Hellguns cannot be fired at a true range of zero. Exception: see (YE28.463).

(YE28.36) FEEDBACK DAMAGE: This weapon only does feedback damage under the rules provided in the Qixavalor Cloud (OP1.0) and against the Loriyill flame shield (OG1.0).

(YE28.37) OVERLOADS: Hellguns cannot be overloaded.

(YE28.4) SPECIAL CASES

(YE28.41) TERRAIN: Hellguns cannot be fired through a hex containing a planet (P2.321), moon [Exception: (P2.3221)], black hole (P4.23), pulsar (P5.32) or star (P12.1). They can be fired into such a hex. They can be fired through ring (P2.223) and asteroid (P3.33) hexes with the standard EW penalties.

(YE28.42) ATMOSPHERES: Hellguns reduce their strength by 25% (of the original strength) for each hex of atmosphere. The 25% loss for a second (or subsequent) hex of atmosphere is cumulative with previous hexes, i.e., deduct 50% for two hexes, 75% for three, and 100% for four or more. Round fractions down when calculating the loss (strength six, 25% loss is 1.5, drop the .5, result is five, loss is one).

(YE28.43) SIZE CLASS 7 TARGETS:
(YE28.431) Hellguns are subject to the penalties of (FD1.51) when firing at drones.
(YE28.432) Hellguns do not damage plasma torpedoes.
(YE28.433) Hellguns are penalized by (M8.52) if used to sweep mines.

(YE28.44) WEBS: Hellguns cannot fire through webs (G10.61), and cannot damage them. They can be fired out of webs, and can damage targets in a web hex to which they have a clear line of fire.

(YE28.45) NON-VIOLENT COMBAT: Hellguns cannot use Non-Violent Combat (D6.4).

(YE28.46) ESGs: Hellguns interact with ESGs.
(YE28.461) If a hellgun is fired at an ESG field (from outside), a hit (on the field) is automatic. Note that this includes hellguns fired at the generating ship and those fired at another target (or into an empty hex) but where the line of fire (to the original target) crosses the sphere/field. The strength of the ESG field is reduced by the strength of the hellgun at the point of impact on the sphere itself; the remaining energy (if any) of the hellgun is automatically applied, without further reduction, to the facing shield of the unit generating the ESG field even if that unit was not the original target. If there is a second sphere inside the first, the process is repeated. (A hellgun ship can, in effect, damage a target outside of the arcs of its weapons IF those hellguns could fire on any ESG hex generated by the target.) See also (G23.845).
(YE28.462) Since an ESG does not completely fill the hex, a line of fire along the edge of an ESG hex (but not one between two adjacent ESG hexes from the same field) does not hit the ESG.
(YE28.463) If fired from inside an ESG field at a target also inside the ESG field, the hellgun does not strike the ESG field. If fired from inside an ESG field at a target outside the ESG field (or into an empty hex simply to hit the field), the hellgun strikes the field (reducing it) and any remaining damage is diverted by the field to the ship generating the field. If fired by a unit in the same hex as a target with a zero radius ESG the hellgun damages the ESG (and possibly the ship generating that field) as if it had been fired at a range of one. This procedure is also used if fired at Range zero into an ESG field as a result of (G23.56). If a hellgun, which is legally fired at a target (even a "speck of space debris") more than that range, intersects an ESG at Range zero, treat this as having hit the ESG at a range of one. There is no feedback from a hellgun in this situation.
(YE28.464) If two or more hellguns are fired at a given ship during a given fire step, they are resolved one at a time (i.e. sequentially, even if fired as a narrow salvo) in any order the firing player chooses. If a given hellgun reduces the ESG to zero strength, the other hellguns are resolved against the ship as if no ESG had been active when they were fired (unless, of course, another ESG mounted on the same ship is active, in which case the hellguns would strike that field), i.e., each rolls normally for a chance to hit (YE28.31).
(YE28.465) A hellgun which misses its target does not extend onward to strike any ESG which happens to be down range.

(YFD0.0) EARLY YEARS DRONES

(YFD18.0) ATOMIC MISSILES

Atomic Missiles were commonly used by ships in the sublight era. They were similar to drones, and carried an atomic warhead. In the early stages of the tactical warp revolution, some empires continued to use Atomic Missiles (albeit with much faster engines) for several years. The Gorns, for example, used these weapons against the Romulans and Paravians for several years. Atomic Missiles operate as drones do except where noted in these rules as being different.

(YFD18.1) DESIGNATIONS

(YFD18.11) SSD: Each "MSL" box on the SSD is one atomic missile launcher. Each launcher holds four missiles, but can only be assigned targets in a designated 180° arc. [LS can launch in directions five or six; RS in directions two or three.] Each rack can launch one missile per turn. The missiles must be launched facing either in direction two or three from a rack with a right-side arc (or five or six from a rack with a left-side arc), and once launched the launcher has a tracking arc of 180°. It is possible to launch a missile at a target that is directly ahead (or behind) a Gorn ship. Such a missile must have the target in its FA arc when launched. Its first move must be directly forward [as with any other launched unit (F2.123)], which may result in the target being outside of its tracking arc (the move directly forward on launch is an override), it can then (and indeed must) on subsequent impulses turn to put the target in its FA arc as any other seeking weapon (F2.22).

(YFD18.12) DAMAGE: Missile launchers are destroyed on "drone" hits, and are regarded as the lowest-ranking "drone" hit for purposes of (D4.3223).

(YFD18.13) REPAIRS: Repairing a destroyed missile rack costs three points. Drone racks cannot be repaired as missile racks.

(YFD18.14) LIMITATIONS: Atomic missiles cannot be placed in captor mines or scatter packs. There are no "warhead modules" or active terminal guidance. If place in an Orion Option Mount, the BPV of the ship is reduced by one point. Atomic missile launchers are distinguished from drone racks at Level I.

(YFD18.2) OPERATIONS

(YFD18.21) MOVEMENT: Atomic missiles move two hexes per turn, but they perform this movement in Impulses #8 and #24 rather than in the normal impulses for this speed. Atomic missiles have a maximum range of six hexes. Atomic missiles cannot make High Energy Turns.

(YFD18.22) COMBAT: Missiles en route to a target are destroyed by two damage points. If the missile hits its target (treat this as a drone hit), it scores four points of damage. There is no arming cost.

(YFD18.23) RELOADS: Each launcher is loaded at the start of a scenario and comes with one set of reloads. The launchers are reloaded in the same manner as drone racks (FD2.42); each missile counts as a one-space drone. Each ship can buy extra reloads (up to one full set) for 0.5 points per missile. Atomic missile launchers cannot use drones (and vice versa). Fighters armed with drones cannot carry atomic missiles.

(YFD18.24) GUIDANCE: Atomic missiles are not self-guiding, but must be guided by a ship [using the drone guidance rules (F3.0)]. The maximum range at which the ship can guide the missile is twelve hexes (missile to ship, ship to target, missile to target). Ships armed with seeking weapons can control a number of atomic missiles equal to their sensor rating.

(YFD19.0) ANDORIAN DRONES

The Andorians (a Federation member planet) used drones during the Early Years period. Their drones operate in the same manner as any other Type-I-Early drone with the following exceptions:

(YFD19.1) It takes five damage points (rather than four) to destroy an Andorian drone.

(YFD19.2) Andorian drones score eight points of damage (rather than six) when they strike their targets.

(YFD19.3) The drone racks on Andorian ships can only engage targets in a designated 180° firing arc. FH can launch in directions six, one, or two; LS can launch in directions five or six; RS can launch in directions two or three.

(YFD19.4) Andorian drones cannot use modules, armor, or other variations. All are Speed 8.

(YFD20.0) DEATH BOLTS

Death Bolts are a type of large drone used by the Carnivons. Their rules are the same as drones except for some special changes.

(YFD20.1) DEATH BOLT RACKS

(YFD20.11) RACKS: Death Bolts are not launched from traditional drone racks, although the effect is largely the same. They are stored in the ship's shuttle bay in a Death Bolt Rack (which is more like a ready rack than a drone rack) and are launched through the shuttle hatch.

(YFD20.12) SSD: Each Death Bolt Rack on a ship is represented by one box marked "DB". These boxes will always be adjacent to a shuttle bay box.

(YFD20.13) LIMITATION: An impulse in which a Death Bolt is launched is considered an impulse of a shuttle launch for purposes of (J1.50).

(YFD20.14) AMMUNITION: A ship armed with Death Bolts has four of them for each rack on special mounts on the shuttle bay deck and four more (for each rack) in storage. Death Bolts cannot be loaded on scatter packs, drone racks, or fighters; Death Bolt racks cannot be loaded with drones.

(YFD20.15) DAMAGE: Death Bolt Racks are destroyed on "drone" hits. For purposes of (D4.3223), Death Bolt Racks are considered the next better item from a C-rack. Death Bolt racks will be destroyed by chain reaction explosions (D12.0). The destruction of a death bolt rack with one or more death bolts loaded on it will initiate a chain reaction using the procedures of (D12.3). An empty death bolt rack or an otherwise empty rack in the process of having a death bolt loaded on it will not cause a chain reaction, nor will it be destroyed by an exploding armed shuttle except by the random internal such a shuttle may generate (D12.11).

(YFD20.16) REPAIR: To repair a death bolt rack under (D9.7) or (G17.0) requires three repair points.

(YFD20.17) ORIONS cannot mount Death Bolt Racks in their option mounts or shuttle bays.

(YFD20.18) TACTICAL INTELLIGENCE: Because Death Bolt Racks are inside the shuttle bay, they cannot be detected until a Death Bolt is launched.

(YFD20.2) PREPARING DEATH BOLTS

(YFD20.20) REQUIREMENT: Each Death Bolt must be "prepared" prior to being launched. Preparation requires one "deck crew action". It does not require energy to prepare a Death Bolt. The deck crew must be in the DB box to prepare a death bolt and are killed if the DB box they are in is destroyed. A ship armed with death bolts may have one death bolt prepared for launch at Weapons Status-II, and two death bolts prepared for launch at Weapons Status-III. Each death bolt prepared for launch when a scenario begins counts against the maximum number of special shuttles the ship may have prepared (S4.1).

(YFD20.21) LIMIT: A given Death Bolt Rack may have no more than one Death Bolt prepared for launch (or in any stage of preparation) at any given time.

(YFD20.22) SEQUENCE: The deck crew of a given Death Bolt Rack may not start work on preparing a Death Bolt for launch until sixteen impulses after that Rack has launched a Death Bolt. [This effectively limits the maximum launch rate to one Death Bolt per rack every 48 impulses.] If work is interrupted, it must be restarted from zero; it cannot be resumed at the point of the interruption.

(YFD20.23) DECK CREW LIMIT: No more than one deck crew may work on preparing a given Death Bolt or the death bolts of any given Death Bolt Rack at any one time. The Deck Crews that work on Death Bolts are in fact the crew provided by (J4.814).

(YFD20.24) STORAGE: It requires two deck crew actions to remove a Death Bolt from storage and place it in the rack. This cannot be done during any time that a deck crew is working on the preparation of a Death Bolt on that same rack. If work is interrupted, it must be restarted from zero; it cannot be resumed at the point of the interruption.

(YFD20.25) SCATTER PACKS: Death Bolts cannot be used in scatter packs.

(YFD20.3) DEATH BOLT OPERATIONS

(YFD20.30) Except for special death bolt targeting (YFD20.4), Death Bolts operate exactly as drones do. This includes targeting limits (anything but a plasma torpedo), firing at drones, ESG interactions, etc.

During the Early Years period, there were no drone modules per se, and there was only one type of death bolt.

External armor was not available in Early Years.

Death Bolts did not have active terminal guidance in the Early Years period.

A successful lab attempt (YG4.231) reveals targeting information, and this includes whether a death bolt is on a leading, following, or normal setting.

(YFD20.31) PARAMETERS: Death Bolts have a speed of eight, a warhead of twelve points, an endurance of three turns, and require eight damage points to destroy.

(YFD20.32) IMPACT: The impact of a standard, type-VI, or Andorian drone will kill a Death Bolt, and vice versa. While anti-drones are not used in Early Years, an anti-drone will destroy a Death Bolt.

(YFD20.4) SPECIAL DEATH BOLT TARGETING

(YFD20.40) BASIC CONCEPT: Death bolts were not as accurate in pursuing their targets as standard drones. They made up for this, however, with a directional warhead. While the warhead "range" is vastly less than a single hex, it is somewhat more than the proximity blast detonation system used by drones.

Some have complained that the ability of death bolts to be set to lead, follow, or operate as a normal drone against their targets makes them more accurate than drones, not less as the description provides. What they are failing to notice is that the warhead of a death bolt is DIRECTIONAL, and a given death bolt actually explodes further from its target surrendering some damage in order to do damage. If the Carnivons are brought up to general war standards, death bolts will have an increased warhead effect due to improved accuracy, somewhat compensating for the lack of an overload feature on their DCs.

(YFD20.41) DESIGNATION: At the time a given Death Bolt is launched, the launching player designates if the weapon is to "lead", "normal", or "follow" the target. This designation has no effect on normal drone movement; it comes into play only upon impact. This designation is made secretly and in writing.

(YFD20.42) EFFECT: At the time a Death Bolt enters the hex of its target, the controlling player reveals the designation above. The shield that the death bolt strikes is then determined by the chart below:

Nominal	Shield Actually Struck		
Shield Facing	Lead	Normal	Follow
1	1	1	2 or 6
2	1	2	3
3	2	3	4
4	3 or 5	4	4
5	6	5	4
6	1	6	5

As you can see, if the designation is to "lead" the target, then the death bolt's damage is scored on the shield that is one "shield facing" toward the front of the ship. For example, a "leading" Death Bolt which (by normal drone movement) would strike the #3 shield will in fact strike the #2 shield.

(YFD20.421) There is one complicated situation, that being in the event of a leading death bolt approaching the rear shield or a following deathbolt approaching the front shield. In either case, roll one die, with odd numbers indicating that the death bolt has struck the starboard (right side) shields (#2 or #3) and even numbers indicating it has struck the port (left side) shields (#5 or #6).

(YFD20.422) In the event that the ship is traveling in reverse, treat a leading death bolt as a following death bolt (and vice versa) for the chart above. Treat a ship which is not moving as one that is moving forward.

(YFD20.423) If the target is a base, the designation is "left" or "center" or "right" (from the viewpoint of the launching ship), not "lead", "normal", or "follow". The shield that is struck is judged accordingly.

(YFD22.0) PLASMA DRONE

The plasma drone was developed by the Q'Naabians. It was a unique combination of a drone with a relatively small warhead that could be enhanced by the application of warp energy which "excited" the fissile material in the drone's warhead. While it suffered the limitations of a drone (it could be destroyed by weapons fire or held at bay with a tractor beam), the fact that any given warhead might be enhanced was a cause of great consternation for their opponents.

As ships became faster, the plasma drone would be relegated to the Concordium's trash heap. While it might have been a useful weapon (updated with the Kzinti, Klingon, or Federation technology), the Concordium had initially designed its pacification ships based on its observations of the Gorns and Romulans. By the time the other empires had been contacted, the Concordium's nascent admiralty decided that changing gears in mid-production would be worse than continuing with their already selected designs, thus the plasma drone remains one of history's lost weapons.

(YFD22.1) DESIGNATION

(YFD22.11) SSD: Plasma drones are launched from special racks designated plasma-P. They are shown as drone racks on the SSD (labeled "DRN" or "DRONE") with a "P" (rather than an A, B, C, D, E, F, etc.) in the ammo track associated with drone rack and the title "Plasma Drone Rack" over the ammo tracks.

(YFD22.12) TYPES OF RACKS: The Q'Naabians developed only one type of drone rack. The plasma-P rack held five drones. There is one set of reloads. A given plasma-P rack can launch one plasma drone per turn with a 1/4 turn (eight impulse) delay between launchings on subsequent turns. Reloading is accomplished using the drone rack reload procedures (FD2.42), treating plasma drones as single space drones.

(YFD22.13) DESTRUCTION: Plasma-P racks are destroyed by "drone" damage points on the DAC as any other drone rack (D4.21). If a plasma-P rack is destroyed, all plasma-P drones in that rack (but not reloads) are destroyed, just as they would be in a drone rack. Note that any plasma-P drone in the process of being loaded into the rack or unloaded from the rack at the time the rack is destroyed is also destroyed as per (FD2.4441).

(YFD22.131) DAMAGE PRIORITY: Plasma-P racks come between C-racks and E-racks (D4.3223).

(YFD22.14) REPAIR: Plasma-P racks are repaired for five repair points. They can be hastily repaired (G17.5) for three repair points, but will only be able to launch plasma drones which have not been enhanced.

(YFD22.15) TECHNOLOGY RESTRICTIONS: Plasma-P drone racks are Q'Naabian early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.

(YFD22.151) Plasma-P drone racks require one option mount and can be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in the simulators.

(YFD22.152) It costs one BPV to put a plasma-P drone rack in the option mount of an Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) unit under Annex #8B. It costs two BPV to place a plasma-P drone rack in a rear-firing option mount of an HDW under Annex #8H.

(YFD22.153) Plasma drones could be used on fighters as normal drones, but the warheads of any plasma drones carried by a fighter or bomber could not be enhanced (YFD22.23) or super-enhanced (YFD22.24).

(YFD22.154) Plasma-P racks were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Plasma-P racks carried by such a unit would have been identical to those found here, except that the launching unit would have been able to launch and guide drones to targets up to 35 hexes distant and there would have been no reloads. The plasma-P racks might have been used by security skiffs under these rules.

(YFD22.155) Captor mines would operate under (M4.412) and DefSats under (R1.15D1) if armed with plasma-P drones. The plasma drones on such platforms cannot be enhanced under (YFD22.23) or (YFD22.24). There is no increase or decrease in the number of drones on a captor mine, i.e., the large captor mine would have six plasma-P drones and the small captor mine would have two. A DefSat armed with plasma-P drones would have five such drones

(YFD22.16) OTHER ORDNANCE: Plasma-P racks cannot launch anything other than plasma drones. They cannot use non-plasma drones (Type-I, Type-II, Type-IV, etc.), plasma-Ds, etc.

(YFD22.17) SIZE CLASS RESTRICTIONS: Except as follows, there are no size class restrictions on plasma-P drone racks:

(YFD22.171) Units smaller than size class 5 cannot use plasma-P drone racks. Note, this restriction is on plasma-P drone racks, not on plasma-P drones.

(YFD22.18) CREW QUALITY, LEGENDARY OFFICERS: Super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0) interact with plasma-P drones in the same way and under the same restrictions as standard drones.

(YFD22.19) TACTICAL INTELLIGENCE: Plasma-P racks are detected as drone racks at Tactical Intelligence Level F, i.e., they are not differentiated from other drone racks. Plasma-P racks can be distinguished from other drone racks at Tactical Intelligence Level G. Whether the drones in a given plasma-P rack have been enhanced or not cannot be detected except by the seeking weapons identification procedures in (F1.4).

(YFD22.2) PLASMA-P DRONES

Plasma drones operate like standard Type-II drones except as noted herein.

(YFD22.21) PLASMA DRONE FRAME: A plasma drone is a one-space drone that requires four damage points to destroy, has an endurance of 64 impulses (two turns), and moves at moderate speed (Speed 12).

(YFD22.211) The Q'Naabians did not develop any drone frame enhancements. There are no external armor modules, extended range, or self-guidance packages that can be fitted to the drone frame. Players are free to experiment with adding such improvements in the simulators, but not in historical settings.

(YFD22.22) PLASMA DRONE WARHEAD: The warhead of a plasma drone will do four points of damage if it hits its target.

(YFD22.221) The Q'Naabians did not develop any other warhead modules. There are no armor modules, swordfish modules, spearfish modules, starfish modules, or any other module type that can replace the warhead of a plasma drone.

(YFD22.222) The reduction of the strength of drone warheads in the early years in (YFD2.0) does not apply to plasma drones, as it is already factored into their warheads.

(YFD22.23) ENHANCED WARHEAD: A plasma drone can have one point of warp energy allocated to it during Energy Allocation on the turn it is launched. The application of the warp energy enhances the warhead and if it strikes its target, the plasma drone will score eight points of damage instead of only four.

(YFD22.231) If a plasma drone with a single point of enhancement is not launched by the end of the turn in which the enhancement was applied, the enhanced energy is lost.

(YFD22.232) If a plasma drone was enhanced by a single point of energy on a previous turn, it can be enhanced normally on a subsequent turn. There is no ill effect from the loss of a single point of enhancement energy, and there is no delay, i.e., the plasma drone could be enhanced again during the Energy Allocation phase immediately following its previous enhancement.

(YFD22.233) If an enhanced drone is launched, it retains its enhancement for the duration of its time on the map, i.e., for its full 64 impulses of endurance.

(YFD22.24) SUPER-ENHANCED WARHEAD: A plasma drone can have two points of warp energy allocated to it during Energy Allocation on the turn it is launched. The application of the two points of warp energy super-enhances the warhead and if it strikes its target, the plasma drone will score twelve points of damage.
(YFD22.241) If a super-enhanced plasma drone is not launched by the end of the turn in which the enhancement was applied, the drone warhead burns out, destroying the drone but not otherwise damaging the plasma-P drone rack.
(YFD22.242) If a super-enhanced plasma drone is launched, it retains its enhancement for the duration of its time on the map, i.e., its full 64 impulses of endurance.

(YFD22.25) PLASMA-P RACK DESTRUCTION: If a plasma-P rack is destroyed while an enhanced plasma drone is still loaded there is no increased damage; the rack is simply destroyed. As with any other drone rack, any plasma-P drones currently in the rack, or in the process of being loaded onto, or unloaded from, the rack are also destroyed.

(YFD22.26) RESERVE ENERGY ARMING: Reserve energy cannot be used to enhance a plasma drone. Plasma drones can only be enhanced during Energy Allocation.

(YFD22.27) PLASMA-DRONE IDENTIFICATION: The enhanced or non-enhanced status of a plasma drone is not revealed by its destruction. It can only be detected by allowing the drone to strike its target, or by the procedures in (F1.4).

(YFD22.28) LIMITED USE: Plasma drones can only be enhanced in plasma-P drone racks.
(YFD22.281) Fighters could use plasma drones in simulators, but not with enhanced warheads. The limited endurance of the warhead module in retaining the enhancement makes their use by fighters inefficient.
(YFD22.282) Plasma-drones can be used on scatter-packs or drogues in the simulators, but as with fighters the drone warheads could not be enhanced. The Q'Naabians did not know about scatter-packs or drogues and did not employ them in the early years. Players are free to experiment with these technologies in the simulators, but not in historical settings.

(YFD22.29) WEAPONS STATUS: As plasma drones cannot retain their enhanced status, they are simply ready to launch. Unless special scenario rules provide otherwise, any unit could enhance some of its plasma-drones during Energy Allocation before the first turn is played.

(YFD22.3) SPECIAL CASES

Except as provided above, plasma drones operate as standard Type-II drones, including their interactions with terrain, weapons fire, tractor beams, guidance, launching them does not blind special sensors, etc.

(YFP15.0) PLASMA-V TORPEDO

By creating this seeking weapon, the Veltressai developed plasma technology in a direction that none of the other nations anticipated. While very short-ranged (in terms of its endurance), requiring the Veltressai ships to get close to their opponents, the sight of the approaching incandescent ball unnerved more than one captain, forcing him to turn away.

It was the memory of this weapon's morale effect that caused the Concordium to concentrate on its development, leading to the plasma torpedoes that would be so common on the combined fleet.

(YFP15.1) DESIGNATION

(YFP15.11) SSD: Each plasma-V torpedo launcher is abbreviated on the SSD as PL-V. Each plasma-V torpedo launcher is fired and damaged individually.

(YFP15.12) DESTRUCTION: Plasma-V torpedo launchers are destroyed by "torpedo" damage points on the DAC.
(YFP15.121) DAMAGE PRIORITY: Plasma-V torpedo launchers come between implosion-L torpedo launchers and plasma blasters (D4.3222).

(YFP15.13) REPAIR: Plasma-V torpedo launchers require five damage control points to repair. There is no hasty repair option available.

(YFP15.14) TECHNOLOGY RESTRICTIONS: Plasma-V torpedo launchers are Veltressai early years technology weapon systems. No other empire currently in *Star Fleet Battles* can use this weapon outside of the simulators. If some other empire is later authorized to use this weapon, it will be noted in the rules for that empire.
(YFP15.141) A plasma-V torpedo launcher requires one option mount and can be used in the wing option mounts of Orion Pirate ships. Note that this can only be done in the simulators.
(YFP15.142) It costs zero BPV to put plasma-V torpedo launchers in the option mounts of Orion (R8.0), WYN (R12.0), Barbarian (R55.0), or Jumokian (MR6.0) units under Annex #8B. It costs three BPV to place plasma-V torpedo launchers in the rear-firing option mounts of HDWs under Annex #8H.

(YFP15.15) SIZE CLASS RESTRICTIONS: Except as follows, there are no size class restrictions on plasma-V torpedo launchers:
(YFP15.151) Plasma-V torpedo launchers were never used on shuttles or fighters, but if such is done in a simulator, it would be assumed that stasis box technology had been developed for them. (Historically, this technology was not applied to plasma-V torpedo launchers.)

(YFP15.1511) No size-1 fighter or shuttle could have more than one plasma-V torpedo. A size-2 fighter might have two plasma-V torpedoes. A size-3 medium bomber might have three plasma-V torpedoes. A size-4 heavy bomber might have four plasma-V torpedoes.

(YFP15.1512) Re-arming plasma-V torpedoes on a fighter or shuttle would be done in the same manner as reloading a plasma-F torpedo (J4.86), except for the reduced arming cost of the torpedo.

(YFP15.1513) Heavy fighters and medium bombers may launch a maximum of two plasma-V torpedoes during a given turn, on the same or different impulses, at the same or different targets. Heavy bombers may launch a maximum of three plasma-V torpedoes during a given turn, on the same or different impulses, at the same or different targets. In all cases, a plasma-V torpedo launched in the last eight impulses of a preceding turn counts against the plasma-V torpedo launching rate during the first eight impulses of a given turn. For example, a plasma-V torpedo launched on Impulse #26 of Turn #1 by a medium bomber would prevent it from launching two plasma-V torpedoes on Impulse #1 of Turn #2 (it could launch one), although it could launch two plasma-V torpedoes on Impulse #2 (assuming it had two armed plasma-V torpedoes).

(YFP15.152) Plasma-V torpedoes were never used by gunboats (interceptors or fast patrol ships) as they were obsolete before gunboats were developed. Plasma-V torpedoes carried by such a unit would operate normally. No other size class 5 unit, except for a ground-based defense station, can be equipped with plasma-V torpedo launchers; this includes, but is not limited to, skiffs and modular cutters.
(YE15.153) Plasma-V torpedo launchers on defense satellites or captor mines would operate within the normal rules for such units, e.g., a captor mine is limited to a range of ten hexes unless command-controlled or chain-linked to a sensor mine.

(YFP15.16) CREW QUALITY, LEGENDARY OFFICERS: Plasma-V torpedoes are treated as plasma torpedoes for the purposes of super-intelligent computers (G11.0), crew quality (G21.0), and legendary officers (G22.0).

(YFP15.17) TACTICAL INTELLIGENCE: Plasma-V torpedo launchers are detected as plasma weapons at Tactical Intelligence Level F, i.e., they are not differentiated from other plasma weapons such as other plasma torpedo launchers or plasma cannons. Plasma-V torpedo launchers can be distinguished from other weapon types at Tactical Intelligence Level G. Whether a given plasma-V torpedo launcher is arming, and the amount of energy currently in the individual launchers, can be determined at Tactical Intelligence Level L.

(YFP15.2) ARMING PROCEDURE

(YFP15.21) ENERGY: Plasma-V torpedo launchers are armed by applying a point of energy on the first and second turn of arming, and two points of energy on the third turn of arming. If the energy is not provided in consecutive turns, the previous turn's energy is lost. The plasma-V torpedo must be launched on the third turn of arming. A plasma-V torpedo launcher can launch plasma-V torpedoes at a maximum rate of once every three turns. If a torpedo is armed and no valid target is available, the weapon must be launched. If the secret targeting rule (F3.6) is being used, and the launching player believes he may gain some deception value by moving the torpedo in a straight line in some legal direction, the torpedo can be moved across the board normally. If no deception is possible, the player should announce the launch of the torpedo into space rather than clutter the map with a counter.

Energy discharged (E1.24) from the plasma-V torpedo launcher by failing to provide subsequent turns of arming energy is announced.

(YFP15.22) HOLDING: Plasma-V torpedoes cannot be held but must be launched on the turn they complete arming. Plasma-V torpedoes can employ rolling delay (FP1.221) by paying a single point of energy on the third turn of arming and subsequent turns. The torpedo could then be completed in mid-turn by the application of a point of reserve energy (from any source), but the torpedo must then be launched.

(YFP15.23) RESERVE ENERGY: Reserve energy can be used to complete a plasma-V torpedo that is using rolling delay (FP1.221). Reserve energy can also be used to provide the first turn of arming in mid-turn under (H7.5), or to complete the first turn of a contingent energy allocation under (H7.6).

(YFP15.24) WEAPONS STATUS: At Weapons Status 0 or I a Plasma-V torpedo launcher cannot have any energy. At Weapon Status-II, the plasma-V torpedo launcher has the first turn's arming. At Weapon Status-III, a plasma-V torpedo launcher has completed the first and second turn's arming. The player controlling the unit has the option to have the plasma-V torpedo launchers at a lower Weapons Status unless a special scenario rule directs otherwise.

(YFP15.25) PSEUDO PLASMA: Plasma-V torpedo launchers do not have pseudo torpedoes. Players could experiment with pseudo plasmas in the simulators, but they did not exist in historical settings.

(YFP15.3) LAUNCHING PROCEDURE

(YFP15.31) PROCEDURE: Plasma-V torpedoes are launched in the same step (6B6) and at the same time as all other plasma torpedoes in the Sequence of Play. Plasma-V torpedoes move at a speed of twenty, not 32.
(YFP15.311) Plasma-V torpedoes are not self-guiding and do not have any built-in ECCM.
(YFP15.312) Plasma-V torpedoes are a unique weapon. Other plasma torpedo launchers cannot launch plasma-V torpedoes as either underloads or fast loads. Advanced technology plasma torpedo launchers and Eneen plasma-E (MFP1.0) torpedo launchers also cannot launch plasma-V torpedoes by any means. No other plasma torpedo launcher can be hastily repaired as a plasma-V torpedo launcher.
(YFP15.313) A plasma-V torpedo is identified as a plasma-V torpedo when it is launched, and the launching player must announce it. The target of the plasma-V torpedo must be announced when the torpedo is launched if secret targeting (F3.6) is not in use. If secret targeting is in use, the target of the plasma-V can be determined by the procedures in (F1.4).

(YFP15.32) PLASMA-V WARHEAD STRENGTH TABLE:

RANGE	0-4	5-7	8-10	11-12	13-14	15
Type V	16	12	8	4	2	1

(YFP15.321) RANGE: The plasma-V degrades in the same manner as a plasma torpedo in that it loses warhead strength whenever it moves. This means that a plasma-V launched on Impulse #4 would be strength sixteen and it would retain strength sixteen until Impulse #11. When it moves on Impulse #12 that would be its fifth move and its strength would drop to twelve points. It would retain a warhead of twelve points until it moved its eighth time on Impulse #16, when the warhead would drop to eight points.

(YFP15.33) BOLT: Plasma-V torpedoes cannot be bolted.

(YFP15.34) DROGUES: Historically, plasma-V torpedoes were never used on drogues. Their operational use pre-dated the development of drogues and stasis box technology. Players are free to experiment, in the simulators, with drogues armed with plasma-Vs, but this cannot be done in a historical setting.

(YFP15.35) PLASMA TORPEDO: Except as defined above, plasma-V torpedoes operate in all ways as standard plasma-F torpedoes. They must have their target in their FA arc when launched, must move directly forward as their first movement after launch, can make one High Energy Turn, are damaged by phasers and impacts with asteroids, cannot be enveloped, blind special sensors when launched, etc.

(YFQ1.0) QUANTUM WAVE TORPEDOES

Quantum Wave Torpedoes (QWTs) are continually expanding waves of energy which seek their target. Due to the large size of the waves, the damage from a Quantum Wave Torpedo tends to slightly envelop the target.

(YFQ1.1) LAUNCHERS

(YFQ1.11) SSD: Each "QWT" box on the SSD represents one quantum torpedo tube and can arm and launch one quantum torpedo at a time.

(YFQ1.12) ARMING: Two points of power are allocated to arm each Quantum Wave Torpedo which is to be launched on a given turn. This power may come from any source.
(YFQ1.121) A Quantum Wave Torpedo must be launched or discharged (FP1.14) on the turn it is armed; it may not be held. If it is discharged, this fact must be announced.
(YFQ1.122) A QWT launcher may launch a torpedo once every turn, but a single launcher may not launch two torpedoes within 1/4 turn (eight impulses) on consecutive turns.
(YFQ1.123) QWTs may be armed with reserve power and launched immediately, or at any later point in the turn after the reserve power has been applied (H7.52). It is legal to allocate one point of power to a given quantum torpedo launcher, and then finish it later in the turn with reserve power. If the reserve power is not applied, the allocated point of power will have to be discharged at the end of the turn, and be reported as such.

(YFQ1.13) FIRE CONTROL: QWTs use the same rules (F3.0) as other seeking weapons; see also (FP4.0). To launch a Quantum Wave Torpedo, the launching unit must have active fire control. Quantum Wave Torpedoes cannot be launched by ships with Low Power (D6.7) or Passive (D19.0) Fire Control. A ship with disrupted fire control (D6.68) cannot launch QWTs.

(YFQ1.14) LAUNCHING: QWTs are launched in the Launch Plasma Torpedoes Step in the Seeking Weapons Stage (6B6) of the Sequence of Play Annex #2. The ship cannot launch a QWT if conducting Erratic Maneuvers. Quantum wave torpedoes can be launched facing anywhere in the 120° arc of the weapon, i.e., a launcher with an FA arc can place the launched weapon facing either directly ahead (#1 shield) or facing the #2 or #6 shields of the launching unit.

(YFQ1.15) OTHER DATA: Repair cost six. Orion Option Mount cost zero. HDW Option Mount Cost four. Not distracted by chaff. QWT launchers are identified at Tactical Intelligence Level F. They are destroyed on "torpedo" hits.

(YFQ1.2) MOVEMENT

(YFQ1.21) SEEKING WEAPON: Quantum Wave Torpedoes are seeking weapons and move under all the procedures of (F2.0) except as provided here.

Quantum Wave Torpedoes are Self-Guiding Seeking Weapons (F3.42), and operate under those rules. While they could be launched on a ballistic trajectory (F4.0) into empty space, the only targets they could hit by that method are planets or moons for general destruction purposes (P2.311). [They cannot ballistically target ground bases.]

(YFQ1.22) ENDURANCE: Quantum Wave Torpedoes have an endurance of twenty impulses and are removed thereafter.

(YFQ1.23) SPEED: Quantum Wave Torpedoes move at a speed of 32 only.

(YFQ1.3) WARHEAD

(YFQ1.31) STRENGTH CALCULATION: The warhead strength of a Quantum Wave Torpedo is determined at the instant of impact, based on two factors: the distance the torpedo has moved and the damage done to it by phasers and/or terrain. See the table in (YFQ1.34).

(YFQ1.32) SPLASH EFFECT: The impact of the weapon is spread over three shields. This is not an optional use of the weapon; it is the way that the weapon always operates. Players cannot voluntarily operate the weapon "without splash" under any circumstances.
(YFQ1.321) The main (center damage element) is scored against the facing shield of the target struck by the QWT, while the splash elements damage the two adjacent shields.
(YFQ1.322) In the case of size class six and size class seven units (and monsters, planets, small or medium ground bases, or other targets which do not have or never had shields) apply the full damage directly to the unit.
(YFQ1.323) Note that because of the splash effect, it is possible that phasers that do not directly face the QWT may be damaged. If one or both splash elements penetrate shields, with or without the main element, the internal damage from the splash elements are determined last, but as part of the same volley, with the left splash element resolved before the right splash element.
(YFQ1.324) In the case of Andromedan ships with two groups of PA panels (and Interceptors with two groups of shields):

If the Quantum Wave Torpedo strikes the position of the #1 shield, all damage is scored on the forward panels.

If the Quantum Wave Torpedo strikes the position of the #4 shield, all damage is scored on the rear panels.

If the Quantum Wave Torpedo strikes the position of the #2 or #6 shield, one splash element is scored against the rear panels, while the main element and the other splash element are scored against the forward panels.

If the Quantum Wave Torpedo strikes the position of the #3 or #5 shield, one splash element is scored against the forward panels, while the main element and the other splash element are scored against the rear panels.

In the case of units with six groups of panels (e.g., Starbase, BATS), these are treated as shields would be.
(YFQ1.325) See (C13.733) and (C13.943) if the target is docked to another unit.

(YFQ1.33) SEQUENCE: Damage is applied and combined with all other damage resolved during the Resolve Damage From Seeking Weapons Not Resolved Above Step of the Damage During Movement Stage (6A3), see the Annex #2: Sequence of Play. Splash elements are resolved last (left, then right) but as part of the same volley.

(YFQ1.34) QUANTUM WAVE TORPEDO TABLE

RANGE	0-5	6-10	11-15	16-18	19	20
DAMAGE	7	6	5	4	3	1
SPLASH	1-5-1	1-4-1	1-3-1	1-2-1	1-1-1	0-1-0

(YFQ1.4) FIRING AT QUANTUM WAVE TORPEDOES

(YFQ1.41) DAMAGING QUANTUM WAVE TORPEDOES: Quantum Wave Torpedoes may be weakened by phaser fire, asteroid damage, nebulae damage or dust damage. Asteroid (P3.24), Nebulae (P6.73), Pulsar (P5.33), and dust (P13.3) damage is computed exactly as for plasma torpedoes.
(YFQ1.411) Four points of phaser, asteroid, or dust damage will remove the "splash" elements from the torpedo. If the QWT has moved twenty hexes, and the splash element has dissipated to zero, then the main element is reduced to zero.
(YFQ1.412) An additional seven points of phaser, asteroid, or dust damage [for a total of eleven when combined with (YFQ1.411) above] will completely reduce the main element to zero damage.
(YFQ1.413) All damage versus a given QWT is cumulative, e.g., one point of dust damage combined with five points of asteroid damage and two points of phaser damage would leave a Quantum wave torpedo with no splash elements and full warhead strength (but only three more damage points will totally eliminate the warhead).
(YFQ1.414) Note that unlike plasma torpedoes, QWTs only have two levels of reduced damage. Any damage less than the required levels does no damage to the torpedo, but the torpedo will be totally destroyed by eleven points of damage regardless of its warhead strength. In this sense, the Quantum Wave Torpedo acts very much like a drone.

(YFQ1.42) OTHER WEAPONS: WARGs (E18.432) and (E18.54) affect QWTs. Convert the damage to "phaser" damage and apply that within the QWT rules.

No other weapon in the game system can affect a QWT at the current time. If a new weapon is able to damage QWTs, it will be noted in its rules.

A displacement device, while it will not damage a QWT, can relocate it as if it were a plasma torpedo. This may cause the Quantum Wave Torpedo to lose tracking and be removed from play in the same manner as a plasma torpedo (G18.71).

A QWT cannot accept another Quantum Wave Torpedo or a plasma torpedo as a target. QWTs cannot be fired through webs, but can fire through ESG fields.

QWTs are affected by MCIDS as plasma torpedoes are (E6.5), e.g., a die roll of five or six will leave the primary warhead intact, any roll less than five will destroy the QWT completely. This does effectively mean that QWTs launched outside of range one are unlikely to score damage unless launched in overwhelming numbers.

(YFQ1.43) OTHER TERRAIN: Each hex of atmosphere (P2.85) or gravity wave (P9.312) traversed by a Quantum Wave Torpedo reduces its strength as if it were a plasma torpedo. Quantum Wave Torpedoes are affected by Black Holes as per (P4.11) and (P4.22). If other terrain is added that affects Quantum Wave Torpedoes, the effect will be defined in the rules of that terrain.

(YFQ1.5) OTHER SPECIAL CASES

(YFQ1.51) DISTRACTION: Quantum Wave Torpedoes may be distracted by "wild weasel" shuttlecraft (J3.0) or by wild SWACS (J9.2). They may accept planets as their targets under some conditions, see (P2.33). They are not distracted by Chaff, but can be attracted by a wild scout PF (K1.756).

(YFQ1.52) SYSTEMS: Some systems can affect Quantum Wave Torpedoes, others cannot.
(YFQ1.521) Quantum Wave Torpedoes can be placed in stasis (G16.0), and are affected by Webs as if they were plasma torpedoes (G10.52). Quantum Wave Torpedoes can be displaced, and might lose lock-on as a result (G18.71).
(YFQ1.522) Quantum Wave Torpedoes cannot be tractored (G7.0), transported by transporters (G8.0), and are unaffected by ESGs (G23.0).

(YFQ1.523) Quantum Wave Torpedoes are affected by crew quality [(G21.114) and (G21.214)] and legendary officers (G22.711) in the same manner as a plasma torpedo.
(YFQ1.524) Quantum Wave Torpedoes are affected by cloaking devices as any other self-guiding seeking weapon (G13.334) and (G13.35). Any reduction in warhead under (G13.37) is applied first to the splash elements (lose the left side first), which can be reduced to zero as a result, and then to the main element.
(YFQ1.525) For purposes of lab identifications, including by probe or aegis, the Quantum Wave Torpedo is treated as any other seeking weapon (G4.2).
(YFQ1.526) QWTs cannot be attracted (G24.23) or have their lock-ons broken (G24.22) by special sensors. The launching of a QWT will blind an operating special sensor on a ship equipped with both systems (G24.13).
(YFQ1.527) If the launching unit is uncontrolled, see (G2.234).

(YFQ1.53) MINES: Phaser-captors fire at QWTs as any other phaser would. PA mines (M10.22) reduce a QWT by 25 points, which (at least in the Early Years) eliminates it entirely. Other mines cannot accept QWTs as targets or damage them.

(YFQ1.54) OTHER: QWTs in Early Years cannot be overloaded, downloaded, enveloped, or bolted. Any loaded torpedoes are lost if the launcher is destroyed before they are launched, i.e., there is no eight impulse grace period. There are no pseudo QWTs.

(YFQ1.55) FEEDBACK: If a QWT is launched and impacts in the same hex as the launching ship, the launching ship will receive one point of feedback damage to each of its three facing shields, for a total of three points of damage; use (FP1.86). This damage is in addition to the damage to the target unit and does not reduce the warhead of the QWT in any way. The loss of splash elements (YFQ1.411) does not change the character of the feedback.

(YFQ1.56) ELECTRONIC WARFARE: Electronic Warfare cannot stop a QWT from being launched, but can reduce its effect when it reaches the target, see Table (D6.361).
(YFQ1.561) If the chart indicates that the shift has allowed only 50% damage, then all splash elements are lost.
(YFQ1.562) If the chart indicates that the shift has allowed only 25% damage, then the main element is reduced by 50% (round fractions up), in addition to all splash elements being lost.
(YFQ1.563) Despite being a self-guiding seeking weapon, the QWT has no built-in electronic warfare capabilities.
(YFQ1.564) The Quantum Wave Torpedo benefits from the EW status of its guiding unit as per (F3.33).

(YG13.0) MASKING DEVICE

After their defeat at the hands of warp-powered enemies in the Second Gorn-Romulan War, the Romulans (unable to develop Tactical Warp) sought ways to make their ships survivable in combat with such ships.

One solution was the Masking Device, designed to make Romulan ships harder to target and therefore more survivable in combat. This technology, completed in Y88 and used against the Tholians in Y89 and the Gorns in Y90, eventually evolved into the Cloaking Device, but the original system was more limited.

Except as noted below, the Masking Device works in all ways like a Cloaking Device. Except as noted below, the Veiling Device works in all ways like a Masking Device.

The Masking device had become worthless by Y120 as advanced fire controls could penetrate it. It had, however, already been replaced by the Veiling Device by that time. The Veil had become obsolete by Y150, but the superior Cloak had become available a decade earlier.

The Masking Device was created by Mike Strain and Mike West.

(YG13.1) OPERATION OF A MASKING DEVICE

(YG13.11) The Masking Device operates, generally, in the same manner as the Cloaking Device. Masking and Veiling Devices can never be installed on a ship with warp engine power. Weapons cannot be fired while a ship is Masked, Veiled, or Cloaked.

(YG13.12) The counter for a ship protected by a Masking Device remains on the map, marked by a special marker. (Use a Cloak marker for this.)

(YG13.13) As with the Cloaking Device, the ship must place its Fire Control systems in Inactive Mode (G13.51) when activating the Masking Device.

(YG13.14) The Masking Device is activated in the same manner as the Cloaking Device except that the fade-out period is only two impulses long. [The fade-out period for the Veiling Device is three impulses, with range penalties of +1, +3, and +5 respectively.]

(YG13.15) The Masking Device is deactivated in the same manner as the Cloaking Device except that the fade-in period is only two impulses long. Note that fire control activation will take longer than the fade-in period. [The fade-in period for the Veiling Device is three impulses.] As this fade-in is faster than fire control can become active, Romulan ships often opened fire on passive fire control.

(YG13.16) The Masking Device is destroyed in the same ways as a Cloaking Device.

(YG13.17) The Masking Device cannot mask a planet.

(YG13.18) In the case of docked units, the Masking Device is treated in the same manner as a Cloaking Device.

(YG13.2) ENERGY COST OF OPERATION

(YG13.21) The cost of operation of a Mask or Veil is as follows:

Warbird =1	Hawk =1
Warhawk = 1	Snipe = 1
Falcon = 1	Vulture = 6

Base = 7/4 (use lower cost if AWRs are shut down)
Dock = 7/4 (use lower cost if AWRs are shut down)

(YG13.22) There is no change in Mask cost if the ship operates or does not operate its impulse engines. The Masking Device will not work on a ship with warp engines; neither will a Veiling Device.

(YG13.23) The energy cost of operating a Masking Device is paid once per turn, as with a Cloaking Device.

(YG13.3) COMBAT AGAINST MASKED SHIPS

(YG13.30) PENALTIES: The only penalty for firing on a masked ship is the loss of lock-on. There is no Range Penalty or Damage Adjustment. The Veiling Device works in the same way as the Masking Device, but DOES receive the +5 Range Penalty of (G13.302).

(YG13.31) The lack of a lock-on imposes the defined penalties. Note that in the case of (D17.2211), the range for "detection" of a Masked ship would be 50 hexes, not 47.

(YG13.32) If the enemy ship maintains a lock-on to the Masked ship, there is no penalty when firing on it.

(YG13.33) The procedure for retaining or reacquiring a lock-on to a Masked unit is the same as a Cloaked unit.

(YG13.34) Use the effective range for direct-fire weapons targeted on a Masked unit. A veiled unit gains the range modifier as well.

(YG13.35) Seeking weapons are *not* affected by (YG13.37).

(YG13.36) During the Fade Period or when Masked, a unit firing at a Masked unit will use normal EW shifts.

(YG13.37) The effect of weapons which strike a Masked unit is NOT reduced by the chart in (G13.37). Masked units do not gain the benefit of their EW against enemy weapons; their EW affects only the various die-rolls regarding gaining or retaining a lock-on.

(YG13.4) LOSING MASKING DEVICE EFFECTS

A Masked unit can lose the effect by any of the methods that would void a Cloak. As the Masking Device does not provide a range penalty or a Damage Adjustment, a ship with a voided Mask has no benefits at all.

(YG13.5) OTHER MASKING DEVICE EFFECTS

Identical to the other effects of the Cloaking Device.

(YG13.6) ADVANCED MASKING DEVICE RULES

(YG13.61) Hidden movement by Masked Ships can be used under the same procedures as Cloaked Ships.

(YG13.62) Experience in tracking Masked Ships works the same as with Cloaked Ships, but the range penalty starts at five and is slowly reduced to zero. (For veiled ships, the penalty starts at seven.)

(YG13.63) Ships entering a scenario while Masked do so using the same procedures as a Cloaked Ship.

EARLY YEARS DESIGNER'S NOTES

We have been working on The Early Years for more than a decade, ever since I was doodling on the computer one day and did an SSD for the old Republic class starship. The D4 followed, and a few years later we published a batch of Early Years preview material in *Captain's Log #12* in 1992.

Early Years quickly became immensely popular. When the new ADB, Inc. started in 1999, Early Years was the most requested new product. Over the years, we had published more Early Years material, and many web sites (most notably that of Mike West, once and, now, again a member of the Star Fleet Staff) had published a lot of guesses about what the final product would look like.

We had originally expected to see *Module Y1* appear in 1994, but playtesting ran into a problem with drones. If the Kzinti got into your hex, you died. Period. We tried a dozen solutions before selecting the simplest one (reducing the warhead strength). By the time this problem had been solved, however, *SFB* was in the depths of The Interregnum and no new products were appearing. Years of turmoil and hardship later, ADB, Inc. became its own publisher and Early Years moved to the head of the list of core *SFB* products.

NEW EMPIRES

The 1992 playtest preview in *Captain's Log #12* mentioned the idea of a "new" empire that was coreward of the Gorns and went extinct in the Early Years. After reviewing a dozen proposals, we picked the Paravians, and published previews of them in P6 and CL18. They were to evolve considerably over the next few years. Being on the plasma side of the galaxy, they were armed with a plasma-like torpedo. Being close to the Gorns (and given the popularity of dinosaurs and bird-descent theories) we decided to make them an empire of birds descended from extinct Gorns.

We had always talked about doing a canine empire that was wiped out by the Lyrans and Kzintis in the Early Years, and had originally planned to make them the core of *Module Y2*. In the event, however, we finally decided that the best solution was to include them in an expanded *Module Y1*. They were obviously going to be genetically related to the Lyrans and Kzintis (just as dogs are distant cousins of cats on Earth). We considered the idea of an alliance that collapsed but finally had to agree that none of the three empires could ever get along for more than a few seconds (at least, outside of the WYN Cluster). The "Canines" eventually became the "Carnivons" just to avoid having a "cute" name. We gave them unique types of drones and disruptors, and I came up with the Heel Nipper (no jokes about this being a less than serious name, please!) while watching the Discovery Channel one evening. Playtests found the Carnivons and their combination of weapons to be dynamic, deadly, and fun.

Players had always wanted to see the "national" fleets of the original Federation members. The original plan was to include these in *Module Y2* but we were finally convinced by a few thousand Emails that we just had to include the first of these ships in the original Early Years module. You have not seen all of their ships (or even all of these empires); stay tuned.

HARD CHOICES

We decided not to arm the shuttles after the first of the new series of playtest reports mentioned "Gorn fighter squadrons" a few times too often.

We seriously considered providing one or more of the Federation member planet National Guards with "mini-photons" but given the existence of the destroyer in this time period felt that if such weapons were historically real they would have been used in all destroyers since that time.

Lots of things had to be decided, studied, and re-decided after we had the history down. The Federation and Gorns could not react to each other, for example, as they had never met during the Early Years.

We provided as many "technological evolution" steps as possible, such as extending the range of tractor beams and transporters in increments.

THE W-SERIES SHIPS

Studying the Early Years timeline, we eventually came to the conclusion that after the YCAs and their ilk began appearing about Y80, there would still be a lot of older ships (sublight ships originally refitted to warp) laying around, and we wanted to include them in the product. After a few pages were added, these became the W-series of "Warp-Refitted" ships, which had their own unique features. We tried to include some variation among the empires, denying the Hydrans armor for example.

This also gave us the opportunity to experiment with some technological mismatches, such as the rather crazy idea of warp-speed Gorns armed with sublight weapons fighting sublight Romulans with warp speed weapons.

THE FUTURE OF EARLY YEARS

There will probably be a Y2 although we cannot say when it will be. We can say that we will include Early Years material in future issues of *Captain's Log*. We have deliberately opened as many doors as we can, leaving space for Klingon command variants, Hydran ironclads, more ships for the Paravians and Carnivons, Klingon subject races, the early Vudar, more early designs for the Lyrans and Kzintis, and other possibilities too numerous (or too dangerous) to mention. Tactics, fiction, art, ships, and scenarios are already in preparation for future *Captain's Logs*.

SCENARIOS

We have included some scenarios in this product, but most Early Years scenarios will appear in future products. At one point we had very few Early Years scenarios, then suddenly we had more than we could find space for. Those we could not fit here will appear in *Captain's Log* and perhaps in *Module Y2*.

IT'S BEEN FUN

Running a game publishing company is not nearly as much fun as running a game design company, and neither of them is quite as much fun as they seem to be from the outside. During the first year of ADB, Inc., I was often overwhelmed by the minutiae of business. Just when I wanted to write a new scenario, I had to explore the intricacies of obtaining enough corrugated cardboard boxes. Just when I wanted to answer game questions, I had to go pack mail orders. Just when I had an idea for a new Klingon ship (the D17, to be seen in future) I had to call the wholesalers and round up orders for the next new product. It was mind-numbing and tedious, and many times I wondered why I wanted to be a designer *and publisher.* But in writing the *Early Years* module, I found time to be a designer again, and rediscovered the joys of creativity. It's been fun doing *Module Y1*; I really do mean that.—*Stephen V Cole*

END OF (Y0.0) EARLY YEARS RULES

(Z0.0) NOTES AND INFORMATION

(Z1.0) DESIGNER'S NOTES

There is considerable difficulty in doing a game on a subject where the "historical" data consists of some 100-odd hours of film, several novels, and a wide variety of semi-official "technical" data added by various people at various times with no particular effort to maintain any consistency. In putting all of this into a game format, one must first consider that any "battles" shown in the films are not the only battles ever fought and are likely to be the most unusual battles. Then the designer must construct a game system which will provide good results for "average" battles, and still account for the "unusual" ones.

In a historical game one can expect different sources to at least agree in their basic concepts. The real world is reasonably consistent. But in fiction in general, and this subject in particular, that consistency is simply not there. Not only do the later "add on" materials disagree considerably with the film in some cases, the various sections of the film disagree considerably with each other. The ancient bane of science-fiction writers (the speed of light and the distances to be covered) strikes home particularly hard in this universe, where we find that at maximum possible speed the ship could not cover the "five year mission" in anything less than 250 years. But if a game was to be done, all of these conflicts had to be resolved — compromised with each other to create a realistic and yet playable game system. In this game the designer has assumed the film to be correct (even where it contradicts itself) and tried to work in the other material as consistently as possible.

The designer began his work on this game by analyzing the ships. The basis of the game was the Federation heavy cruiser. In using it in the game, it was found to have certain weak points which should have been accounted for. The designer's solution was to create the "command cruiser." The dreadnought existed as a set of external blueprints and was easily factored into the game.

Problems began when the designer turned his attention to the Klingon battlecruiser. There exists a set of semi-official blueprints for this ship, but the blueprints do not agree with the film in key areas. The blueprint Klingon is literally bristling with phasers. These, of course, were never used on film. While rumor has it that the draftsman added them "because they looked good," the designer felt that he had to work them into the game. The solution came from another item on the blueprints, which indicated that the Klingons carried radar-homing drone missiles (also never used on film). The phasers were declared to be "defensive" phasers intended to protect the ship from drones. The relatively short range and low power neatly explained why they were never used on film. The unusual firing arcs of these phasers (all can fire to the rear, but less than half to the front) seemed to support this. But who was using drones against the Klingons?

The Kzintis were mentioned in some of the later films, and it seemed logical to use them for this hypothetical drone-using empire. The few mentions of them in the novels (which do not cover the same incidents as the films) indicated that the Kzintis were near the Klingons and had previously fought them. The Kzinti strike cruiser was created by the designer as a balanced ship that was at the extreme end of the "drone technology" spectrum.

The Romulan blueprints (by the same draftsman that did the Klingons) also did not agree with the film. On film, Federation officers made the flat statement that the ship they were fighting used only "impulse" power and was purely sublight. The blueprints show a warp-capable ship. To be sure, the idea of a sublight ship in the film was rather ludicrous (it would have needed 50 years to cross the "Neutral Zone"), but the designer felt bound to honor the film. The blueprints were used as the basis of the War Eagle class. (The designation of "Warbird" for the sublight ship was invented by the designer and Lou Zocchi in a phone conversation in 1977. This term has since been adopted by the films.) The War Eagles make a good deal of sense. After the Klingon treaty provided the Romulans with warp technology, older Warbird hulls would be pulled into stardocks for refit. For similar reasons, the Federation light cruiser was designed as a counter-part to the Warbird. The silhouettes on the counters caused another problem. The ship on the film has an identical silhouette to that of the warp-speed cruiser in the blueprints. The solution was to rearrange the boxes on the SSD to make either ship fit the same outline.

The blueprints provided a considerable amount of technical data on the "plasma torpedo," but this, unfortunately, caused more problems than it solved. The blueprints showed that the War Eagle was just barely capable of firing one. Using any realistic mathematical model, the Warbird could not possibly fire such a weapon. The designer felt obligated to honor the film, and the plasma torpedo is factored for the Warbird. All things considered, it probably would have been much easier to ignore the film and use the blueprints. But despite the fact that the most enthusiastic fans probably have the blueprints, it was obvious that far more people would have seen only the film. Playtesting of the War Eagle showed that the addition of phasers (which do not appear in anything but this game) make the ship much more effective.

The Gorns presented other problems. While the designer insisted on including them (primarily to provide a variety of cruisers), there was very little information on them. Physically impressive and personally fearless, they seemed particularly loath to stand up and fight a Federation cruiser. This could indicate a severe shortage of ships, or perhaps an honest desire to avoid bloodshed. Their ships were created (by the designer) to show a mix of Federation and Romulan technology and a penchant for ground combat (hence the large number of shuttles).

The Tholian patrol ship is basically that used in Lou Zocchi's earlier set of miniatures rules. The improved PC is a more effective ship built on the same hull. The Orion CR was created from whole cloth to fulfill the assigned mission.

As to the game system itself, the designer felt that the basis had to be individual ships. This brought on the rather thorough "energy allocation" system. Careful analysis of the films demanded a proportional movement system to depict the warp-speed dogfights that are common in individual battles. The rest of the game more or less fell into place, using game mechanics to create the "feel" and the "flavor" of the film's technology.

(Z1.1) NOTES ON THE COMMANDER'S EDITION

By 1983, the original 1979 edition of *STAR FLEET BATTLES* was overloaded with haphazard additions, changes, and corrections. It was clear that issuing yet another "expansion kit" that devoted half of its space to correcting previous products was not the answer. The result was the Commander's Edition, which appeared in three volumes (1983, 1984, and 1985).

Many changes were made. The rules were renumbered in the alphanumeric system (one of the very first games to use anything other than sequential numbering for its rules). The SSDs became the "Commander's" type with all of the charts on the page with the ship.

The Commander's Edition institutionalized the most basic flaw in the earlier editions: Addenda. This started out as simply corrections of mistakes. Then it expanded to include new material, and then "adjustments to obtain better balance" and then finally degenerated into just "messing with the rules." It was time for another edition.

(Z1.2) NOTES ON THE *CAPTAIN'S EDITION*

It started as an off-hand comment by then-publisher Allen Eldridge: "You'll quit messing with the rules when Doomsday comes and not before."

Then it became an in-house joke. Whenever something really crazy came up (like three-dimensional *SFB),* someone would say "yeah, do that in the *Doomsday* Edition."

Then it became a public joke in an issue of the old Nexus magazine when we mentioned "a leather-bound multi-volume Doomsday rulebook" which would be done after everything else on the list of upcoming products.

Doomsday became a real project in 1987, at which point we began considering various means of getting it done. This did not happen until 1990, when the publisher was under new ownership. The new publishers wanted Doomsday, but delivery was slowed by the massive amount of work, the Persian Gulf War, and the delayed release of Steve Petrick (much needed design reinforcements for ADB) from the Army (which took 18 months to do paperwork that should have taken 18 hours. Ultimately, however, everything was in place and work on Doomsday began in ernest.

The long gestation, however, did give us time to plan an all-new edition. The publisher insisted that we should reorganize the game system into entirely new products. This was necessary to present the material to an entirely new generation of gamers in a more logical format (and to make dealers notice that it was a *new* edition).

In creating the *Captain's Edition* (as Doomsday came to be called), our priorities were:

- Incorporate all previous addenda and answer all questions.
- Resolve all of the various contradictions between rules.
- Create a complete and balanced set of rules that would not require any further addenda. (This goal was, unfortunately, not accomplished and the result was the 1994 edition.)
- Create a new graphic format that would make the rules easier for players to access.
- Integrate into the rules all of the concepts that had been tossed on top of the pile over the years, such as active fire control and using cloaks (or ESGs) on any impulse.
- Improve the SSDs, make the SSD a formal part of the rule for the ship.
- Create a framework onto which new scenarios, ships, and other material can be easily added without having to re-wire the basic rules structure.

All of these goals (except for the errata, which took a revised edition) were met, and the Doomsday edition was a best seller.

Ultimately, however, the publisher was battered by market forces, a few bad decisions, and perhaps a lack of focus. The game system more or less disappeared from the market by the end of 1996 when ADB was unable to design new games without being paid for the previous ones. Two years of tedious negotiations were completed in January 1999 and Amarillo Design Bureau, Inc. was born. Four months later, the improved 1999 edition of the rulebook you now hold in your hands was published.—*Stephen V Cole, Designer*

(Z2.0) ADVICE ON TACTICS

While tactics are a product of resources and the situation, there are some basic concepts that are common to most situations.

When first entering a combat situation, it is generally a good idea to begin arming weapons that will take some time to prepare. Long-range sniping with phasers and disruptors may be used to liven up the first turn, but a minimal amount of energy used to reinforce the forward shields will prevent this from causing any permanent shield damage.

Concentration of fire, both by a single ship or a fleet, is probably the single most important concept. To score any permanent shield damage, you must score enough hits to overcome reinforcement. To score any interior damage, you must overcome one of the shields. The most devastating attack any ship can launch is a combination of its phasers and heavier weapons (i.e. an "alpha strike") directly onto one enemy ship and onto one of his shields during a single impulse. If this shield has previously been destroyed or weakened, so much the better. (It is generally a good idea to take a slightly longer-ranged or less advantageous shot at a damaged shield than a closer shot at an undamaged one.) This will permanently destroy that shield and cause severe internal damage.

A ship with its forward shields down cannot effectively close the range with its opponent and must fight a "retreating" battle behind his rear shields (or fly into combat backwards, which is not very effective). If you cannot get a major penetration of a shield, you will have to take the "long road" and spend the first few turns hammering down two or three of his shields, at which point he cannot help but expose a weak shield to your concentrated fire.

One of the most basic tactics in *SFB* is the "MIZIA CONCEPT," named for the *SFB* player who invented it. The idea here is to knock down an enemy shield, then fire several smaller volleys through the down shield over the next few impulses so that you get the "one time" hits on the A-column of the Damage Allocation Chart. Such an attack will score many more weapons hits. Of course, once you penetrate a shield, your enemy will try anything (turns, sideslips, even a risky HET) to get that shield away from you. Combined direct-fire and seeking weapons can produce the effect as they strike during different portions of the impulse.

Klingon drones, when used against Federation ships, lessen the effect of the powerful Federation type-I phasers as the Federation ships must use powerful phasers to knock out small drones.

Kzinti ships (before the refits) call for entirely different tactics. Without a heavy offensive punch from direct-fire weapons, their primary ability to destroy an enemy requires overwhelming him with drones (so many that all can't be hit and some must get through). One way to do this is to launch one wave toward the target, follow them closely, and add a second wave on the next turn (thereby putting the maximum number of them in the target area at the same time). Drones require careful timing and shrewd tactical skill. Captains who can win with Kzinti ships have earned some bragging rights. After the refits, Kzintis act like Klingons with extra drones.

The Kzinti CV lends itself to even more interesting tactics. One possibility is to launch a wedge of fighters, which in turn launch a wedge of drones. The result is a powerful ship with two or three dozen "little brothers." Cleaning up the drones and fighters is a little like stepping on ants — you just can't get them all. Another tactic (that requires more skill) is to use the fighter group as an "artificial" starship. After all, it takes 96 hits to destroy it (12 x 8), and it has 12 phasers, not to mention drones. The carrier could then circle its opponent and drive it back into the fighters.

Ships armed with plasma torpedoes again require new tactics. The plasma torpedo is the single most powerful weapon in the game — IF properly employed. Firing from behind an enemy ship that is just working up to full speed will do little more than encourage him to leave (which he is probably doing anyway). If the range is even close to the difference in speed, you either won't catch him at all, or will do so only at the end of the torpedo's run, when its power is diminished sharply. The best time to release a plasma torpedo is directly in front of an opponent who is going too fast to brake and reverse direction. The only thing that he can do is reinforce the front shields, fire all his phasers at the torpedo at the last instant, and pray. Even with considerable luck, the torpedo will smash the front shield. The only real defense against a plasma torpedo is to avoid being in its primary short range firing arc, which makes tackling a plasma torpedo armed starship a tedious operation.

The "solution" to a massive plasma (or drone) attack is the wild weasel. This diverts most seeking weapons away from your ship. The problem with this solution is that you have a limited number of shuttles, they cost power to prepare, and once you use it your ship is at a slow speed in the presence of a very annoyed enemy. Speed is life in *STAR FLEET BATTLES,* and slowing down or using emergency deceleration around the enemy is asking him to try as hard as he can to kill you.

The classic plasma tactic is the renowned "Gorn Anchor." Here you simply move to point-blank range and slap a tractor beam on the target, preventing him from launching a wild weasel or running away. Most plasma tactics revolve around achieving or avoiding the Anchor.

Using shuttles (even Kzinti fighters) in a space battle creates an interesting situation. While they improve the offensive power of the ship (by the phaser-3s they carry) and its defense (by drawing fire), they have the effect of tying a starship to a speed at which they can keep station. Otherwise they end up being left behind. The life expectancy of shuttle crews is not great.

Every player of *STAR FLEET BATTLES* should have the chance to participate in an attack on a starbase, perhaps as a club project. The various tactical principles stated above apply, but it should be obvious that plasma torpedoes will be a particularly effective weapon. The firepower of a starbase, however, is more than capable of crippling at least one ship per turn, so don't waste any time once you have started.

Boarding parties add more new dimensions to tactics. If one shield can be knocked down, the marines can swarm aboard, knocking out security stations (causing Klingon mutiny) and heavy weapons (this may be the best way to deal with plasma torpedoes). Players should also experiment with the smaller ships of the games, particularly with the frigates. These ships require special handling and thought, as they are not just miniature starships, but have seriously different ratios of firepower to protection.

Further tactics will be found in the *STAR FLEET BATTLES TACTICS MANUAL*. Tactical discussions appear in *Captain's Log* in many formats (term papers, "victory at" articles, and other articles, and lively tactics discussions are held at the official *SFB* web site at www.starfleetgames.com where you can compare notes with (and challenge the contentions of) the designers, playtesters, and staff. If you want a chance to work on future products, participation in these on-line BBS discussions is a good way to get noticed.

(Z3.0) ADVICE TO NEW PLAYERS OF SIMULATION GAMES

Due to the subject matter of this game, many people will have purchased it as their first venture into simulation gaming (i.e., "wargames" or "adventure games"). The designer's (and the company's) best wishes go out to these people who are entering a new and fascinating hobby. However, these people should be cautioned that *STAR FLEET BATTLES* is relatively complex as games go and may be simply too much for them to master. If you simply cannot master the game mechanics, or cannot understand what you are supposed to be doing, please do not give up! It is suggested that you return to the store where you purchased this game and ask the manager if he can put you in touch with other people who are playing it. These people will be able to show you how the game works and can also show you other games in this hobby that may interest you. Games are available on almost any historical, fantasy, or science-fiction subject.

The best way to start playing *STAR FLEET BATTLES* is in a group of experienced players, but if none is available, the second-best choice is the product *CADET TRAINING HANDBOOK,* which takes you through the most basic rules in a step-by-step approach.

As an alternative, there are any number of inexpensive introductory games on the market. Try one of these, and after you have mastered it, return to *STAR FLEET BATTLES*. Go to your store manager and list the science fiction and fantasy areas that interest you. He should be able to provide you with games, from a variety of companies and at a variety of price levels, on many of these areas.

LOOKING FOR OPPONENTS?

Send $1 and a stamped self-addressed envelope to ADB Inc. and we will send you a list of known *SFB* players in your area. Some areas have more gamers than others, and sometimes the nearest *SFBer* may be an hour's drive away, but if you write in for the list, YOU will be on the list when the next *SFBer* in your area comes looking for new opponents. You can have yourself put on the list (without buying a copy of the list in your area) by dropping a letter or card to ADB Inc.

(Z4.0) DESIGN CREDITS

This information has been updated in (Z37.0) on page 400.

(Z5.0) *THE STAR FLEET UNIVERSE*

Most *STAR FLEET UNIVERSE* products are by Amarillo Design Bureau, inc., which also publishes, markets, and distributes these products. *STAR FLEET BATTLES* (of which Basic Set is the foundation) is the tactical game from the *STAR FLEET UNIVERSE*. The strategic background for *SFB* and a campaign system can be found in the game *FEDERATION & EMPIRE,* which is also produced and designed by Amarillo Design Bureau.

The *CAPTAIN'S EDITION* is a complete redesign of the previous *COMMANDER'S EDITION*, which is now out of date. The *CAPTAIN'S EDITION* includes many interrelated products, some of which are listed below.

CURRENT PRODUCT LINE: The *Captain's Edition* (1999) includes the following products:

- ★ *BASIC SET* (this rulebook) includes the basic rules, the original empires of the universe, and the most common ships. Basic Set is roughly equivalent to Commander's Volume I.
- ★ *ADVANCED MISSIONS* adds many advanced rules needed to play at the expert level and many more ships for the seven basic empires. It also includes many new scenarios. Advanced Missions includes much of the material from Commander's Volumes II and III.
- ★ *CAPTAIN'S MODULE A+: CAPTAIN'S YEOMAN* contains many play-aid charts and cards designed to speed play.
- ★ *CAPTAIN'S MODULE C1*: *NEW WORLDS* I adds three additional empires to the game system. The Lyrans are Klingon allies and enemies of the Kzintis. Their double-hull ships use the powerful Expanding Sphere Generator. The Hydrans are enemies of the Klingons and Lyrans. Their ships almost all carry fighters. The WYNs are a small neutral enclave on the Klingon-Kzinti-Lyran border. *Module C1* draws much of its material from *Commander's Volumes II* and *III*.
- ★ *CAPTAIN'S MODULE C2: NEW WORLDS II* includes three more empires for the *SFB* game system. The Neo-Tholians arrived from the original Tholian galaxy just in time to use their incredible Web Caster to save the Holdfast from destruction. The Andromedans invade our galaxy and try to wipe out everyone. The ISC are a peace-loving empire which feels that the rest of the galaxy is occupied by dangerous lunatics who should be saved from themselves. *Module C2* draws much of its material from *Commander's Volumes II* and *III*.
- ★ *CAPTAIN'S MODULE C3: NEW WORLDS III* will bring new minor empires (for example, the Lyran Democratic Republic) as well as segments for existing empires (for example, Andromedan bases and the WYN War of Return).
- ★ *CAPTAIN'S MODULE C4: FLEET TRAINING CENTERS* adds nine new empires to the game system, but these empires are like no others. They are artificial "simulator" empires used for training captains to deal with unusual circumstances. As such, they include unusual weapons which would be impossible within the normal game universe. The Frax mount their weapons in "wet navy" FX/RX arcs. The Triaxians move in three dimensions rather than two, and have various new types of plasma torpedoes. The Qaris mount their kinetic weapons in rotating armored turrets. The Britainians mount their weapons for broadside fire. The Canadi'ens fly the deadly Maple Leaf Mauler. The Sharkhunters use wire-guided plasma torpedoes and flash bombs to hunt cloaked ships. The Barbarians can be rebuilt to reflect any tactics you want. The Flivvers can fly sideways and backwards. The Deltans are the fastest ships in the game but can barely turn.
- ★ *CAPTAIN'S MODULE D3: BOOMS & SAUCERS* includes the special SSDs needed for separated Federation saucers, Klingon booms, and Tholian rear hulls; two scenarios.
- ★ *CAPTAIN'S MODULE F1: JINDARIAN CARAVANS* brings a single new empire, the scattered Jindarian Caravans and their asteroid ships which are both warship and home to their people, armed with warp-augmented railguns..
- ★ *CAPTAIN'S MODULE F2: THE VUDAR ENCLAVE* includes a single empire, the Vudar, a subject race of the Klingon Empire allowed to build their own ships, armed with ion cannons and ion pulse generators, and details their rumored revolt.
- ★ *CAPTAIN'S MODULE J: FIGHTERS* contains many new rules, ships, fighters, and scenarios for most empires. New counters and SSDs are included. *Module J* includes the material from *Commander's Supplement #1* as well as much additional material.
- ★ *CAPTAIN'S MODULE J2: ADVANCED FIGHTERS* contains many new rules, ships, fighters, and scenarios for most empires. New counters and SSDs are included. *Module J2* includes many new ship classes and some new weapons and equipment.
- ★ *CAPTAIN'S MODULE K: FAST PATROL SHIPS* contains all of the rules and other data for PFs, the small gunboats that became the terror of the *Star Fleet Universe* in the later years of the General War. SSDs and counters are provided to represent new ships and PFs of empires that used them. This covers most of the ground from Supplement #3.
- ★ *CAPTAIN'S MODULE M: STAR FLEET MARINES* includes detailed boarding party actions and ground combat, plus dozens of entirely new starships.
- ★ *CAPTAIN'S MODULE R1: NEW SHIPS I* includes SSDs and counters for all of the bases, freighters, and auxiliary ships, as well as many play aids and other items. Like *Modules R2-4*, *R1* incorporates material from the various SSD books, *Volume III*, and Reinforcements packages from the Commander's Edition.
- ★ *CAPTAIN'S MODULE R2: NEW SHIPS II* includes SSDs and counters for more Federation, Kzinti, Orion, and Andromedan ships.
- ★ *CAPTAIN'S MODULE R3: NEW SHIPS III* includes SSDs and counters for more Klingon, Lyran, Hydran, and WYN ships.

- ★ *CAPTAIN'S MODULE R4: NEW SHIPS IV* includes SSDs and counters for more Romulan Gorn, Tholian, and ISC ships.
- ★ *CAPTAIN'S MODULE R5: BATTLESHIPS* provides large ships for most empires, including Heavy Command Cruisers, Battle Control Ships, Heavy War Cruisers, and conjectural Battleships.
- ★ *CAPTAIN'S MODULE R6: THE FAST WARSHIPS* includes new classes of ships for unusual special missions.
- ★ *CAPTAIN'S MODULE R7: DREADNOUGHTS AT WAR* includes new classes of dreadnoughts and battleships.
- ★ *CAPTAIN'S MODULE R8: SYSTEM DEFENSE COMMAND* includes new classes of ships used to protect homeworlds.
- ★ *CAPTAIN'S MODULE R9: THE SHIPS THAT NEVER WERE* includes new classes of ships that, for a number of reasons, were never actually built.
- ★ *CAPTAIN'S MODULE R10*: *THE NEW CRUISERS* includes new variants of the NCA classes.
- ★ *CAPTAIN'S MODULE R11: SUPPORT SHPS* includes new support and service ships.
- ★ *CAPTAIN'S MODULE R12: UNUSUAL SHIPS* includes new unusual and unique ships.
- ★ *CAPTAIN'S MODULE R13* is a future module that will cover ship designs that were not actually placed in service.
- ★ *CAPTAIN'S MODULE S1* includes 50 more exciting scenarios!
- ★ *CAPTAIN'S MODULE S2* has even more exciting scenarios!
- ★ *CAPTAIN'S MODULE T: TOURNAMENT WARS* has everything you need to play in (or run) *SFB* and *F&E* tournaments.
- ★ *CAPTAIN'S MODULE X1: FIRST-GENERATION X-SHIPS* portrays the improved technology vessels that appeared at the very end of the General War. *Module X1R* will, in future, include additional ships for this period.
- ★ *CAPTAIN'S MODULE X1R: X-SHIP REINFORCEMENTS* includes additional ships for this late General War period and the ISC Pacification and Andromedan Wars that followed.
- ★ *CAPTAIN'S MODULE Y1: EARLY YEARS* covers the period prior to Y120 when empires were being built. *Module Y2* will, in future, include additional ships for this era.
- ★ *CAPTAIN'S MODULE Y2: EARLY YEARS REINFORCEMENTS* includes additional ships for this era, especially for the Inter-Stellar Concordium.
- ★ *CAPTAIN'S MODULE Y3: THE EARLY YEARS III* includes additional ships for this era.
- ★ *CAPTAIN'S MODULE YG3: THE EARLY YEARS Annexes* is a complete grouping of all the annexes, to include a consolidated Master Ship Chart, for just the Early Years.
- ★ *CAPTAIN'S TACTICS MANUAL:* This is a revision of the 1987 *Tactics Manual*, completely updated to help you learn the nuances of the new Captain's rules.
- ★ *CAMPAIGN DESIGNER'S HANDBOOK* helps players set up campaigns for their local groups to play.

CONTINUING RELEASES: These items appear at intervals.

- ★ *CAPTAIN'S LOG* is the official journal of the *Star Fleet Universe*. This module appears in magazine format two or three times per year. Log #18 went to press in May 99.
- ★ *STAR FLEET 2400 MINIATURES:* These metal sculptures of starships have been a part of *SFB* for decades and will return to stores at a future date.

FUTURE DEVELOPMENT: The following products are planned for release over the next several years. They are listed here so that you will know why certain rule numbers have been reserved. Many other products are under consideration which are not listed here.

The release schedule for the products below has not been set. Please do not annoy your store manager asking about these products. Consult *Captain's Log* for updated release schedules, or inquire from ADB Inc.

- ★ *FEDERATION COMMANDER:* A boxed product with a simplified set of *Star Fleet Battles* rules and only a few of the basic ships. This is designed as a complete stand-alone game for the mass market, but can serve as an introduction to the more exotic world of *Star Fleet Battles*.
- ★ *CAPTAIN'S MODULE Q: SUBLIGHT BATTLES*: pre-warp era.
- ★ *CAPTAIN'S MODULE V: STAR FLEET OPERATIONS* presents an intermediate level of play between *SFB* and *F&E*.
- ★ *CAPTAIN'S MODULE X2: SECOND-GENERATION X-SHIPS*.
- ★ Many other products are under consideration, including several other galaxies, fiction-based journals, play aids, new ships, new scenarios, and much more.

FEDERATION & EMPIRE is the strategic game of the *Star Fleet Universe* and The General War.

- ★ *DELUXE FEDERATION & EMPIRE* covers the grand scope of the galaxy on a one-ship/one-counter basis. Included is an 96-page rulebook, a huge 19x45" map, 1512 counters, and various charts.
- ★ *COMBINED OPERATIONS* includes rules and counters for tug pods, electronic warfare, SFGs, commando ships, and special units. Includes scenarios, counters, four new fleet charts, and more!
- ★ *FIGHTER OPERATIONS* includes seven new mini-scenarios, each playable in a single evening, plus rules for carrier group formation, Fed SWACs, and Klingon Swarms. Includes 540 counters and a complete set of scenario set up charts.
- ★ *REINFORCEMENTS* includes additional counters.
- ★ *F&E ADVANCED OPERATIONS* includes X-ships, Fast Ships, and many other new ships and a seven-sector scenario.
- ★ New *F&E* products and expansions are in development. These include EcoWar, Civil Wars, AndroWar, and ISC-War.

GURPS PRIME DIRECTIVE is the Role-Playing game of the *Star Fleet Universe*. Players are members of an elite Federation Prime Team, a combination of commandoes, hostage rescue, diplomatic contact, and scientific research team.

STAR FLEET BATTLE FORCE is a mass-market card game designed for the entire family to enjoy.

(Z6.0) COPYRIGHT AND PUBLISHER'S INFORMATION

This information has been updated in (Z36.0) on page 2.

(Z7.0) DESIGNER'S NOTES *SFB ADVANCED MISSIONS*

This information has been updated in (Z36.0) on page 2.

(Z8.0) CREDITS FOR *ADVANCED MISSIONS*

This information has been updated in (Z37.0) on page 400.

(Z9.0) COPYRIGHT AND PUBLISHER'S INFORMATION

(Z9.1) PUBLISHER'S INFORMATION

This information has been updated in (Z36.0) on page 2.

(Z9.2) DESIGNER'S INFORMATION

This information has been updated in (Z36.0) on page 2.

(Z9.3) SUBMISSIONS OF NEW MATERIAL

Amarillo Design Bureau, Inc. welcomes the submission of new material for use in future *Star Fleet Universe* products.

All submissions of new material are accepted ONLY under the following terms unless specifically agreed otherwise in writing in advance by ADB: All materials submitted immediately become the property of Amarillo Design Bureau, Inc. and may be used, modified, expanded, or changed as ADB, Inc., in its sole judgement, sees fit. (It is not sufficient to claim an exemption to these rules within a submission; you must obtain an exemption first.) All materials used will be credited to the original author to the extent of his original submission.

All claims of copyrights to material created from or for use with this product are invalid as they are "derivative" copyrights requiring our permission.

All submissions (and any requests for exceptions to the rules) MUST include a stamped self-addressed envelope for use in sending you an evaluation of your material; the material itself cannot be returned. You should retain a complete copy of your material for your own use.

Here are a few comments and suggestions about the categories of material that could be submitted:

★ **General:** Getting something published is easy and difficult. Good stuff goes to the head of the line. We get lots of submissions and have an extensive backlog of material. Persistence, preparation, and presentation all pay off. The more you know about *SFB*, the better your chances. Do not assume that we have never thought of something just because we never printed it. We may have it on file already.

✪ Hint: NEVER waste money sending something by Express. It will get treated the same way and (if approved) published the same time if you send it first class.

★ **Format:** TYPE (computer dot matrix ok), single or double space, one side of plain white 8.5x11 inch paper. Use a dark ribbon; if we can't read it we can't use it. Put your name and address on every page. (And Your Email address if you have one.) If it's a multi-page submission, put the title on every page.

★ **Email:** Submissions by Email take a bit of preparation. Do not send numerous files (or a single large file) without asking. Send one small file first to see if we can read the format. Remember that ADB Inc. uses ONLY Macintosh computes, and some file formats may require translation or will only work if sent in ascii text format. Generally speaking, small items, questions, term papers, and the like should be sent as email, not attachments.

✪ Hint: NEVER contact the Bureau and ask us what we want you to create. If we knew we wanted it, we would have already assigned it to someone on staff or done it ourselves. The most important thing you have to offer is an idea we never thought of, but which makes us say "why didn't we think of that?"

★ **Scenarios:** We can always use scenarios, and these are the easiest submission to have success with, but even then it's tough. We have an A-Pile and a B-Pile. The A-Pile is about 5% of the total (300 scenarios are on file for consideration) and will be used first. Getting into the A-Pile is simple. You should follow the format, create a scenario that has a unique twist (not just "two ships met in X terrain and fought a battle" or the ever popular "and this was the first time this class of ship was seen in battle"), and create a battle that fits into the established universe AND adds something to it. Do not submit scenarios including new ships, weapons, or technology you created; indicate in such submissions that you have a scenario if the submission is accepted.

★ **Term Papers:** These should cover a tactic, not a play aid or rules proposal. We reject duplicates of published papers and material in the *Tactics Manual*, as well as anything illegal or unworkable. The rest are sent out to the Tactics Board in batches and graded; the papers with the highest grades go into *Captain's Log*. See *Captain's Log* for more information.

★ **Articles** for *Captain's Log* can cover anything. Give us a try!

✪ Hint: Combining questions and submissions (on separate sheets in the same envelope) is acceptable, but will often delay the process. If we have to go to the staff to work out an answer, the evaluation of your submission will be delayed. If we have to take time to evaluate a submission, the answers to your questions will take longer to reach you. Send two reply envelopes to avoid this. If we can return everything at once, we'll put your other envelope in the Purple File for the next time.

★ **Play aids:** Draw or type it out as best you can, or simply tell us what you had in mind.

★ **Fiction:** This is tough, and easy. You see, we have dozens of stories on file, but VERY few of them are in condition to be published. They all contain flaws, errors, poor writing, or other problems which ADB will have to fix before they can be printed. If, just if, someone happened to submit a story that we did NOT have to do over again, it would go to the front of the pile. What kind of problems are these story-killers? Inventing a new ship. Inventing a new weapon. (They have to be approved before the story is written.) Doing something that is impossible under the rules of *SFB*. (Mr Petrick delights in going through a story line by line and tracing out what happened on the hex map and SSD. If he finds something that is in the story but which cannot possibly happen in *SFB*, the story goes to the bottom of the pile and/or back to the author for revision.) Do your research. If your story can only happen in a certain year, do not use technology invented in later years. The most important thing, however, is a good story, with interesting people and an intriguing plot, which is well told. Stories should fit within the established game universe. You might try to add something to the background. The danger is that if you add nothing, it's just another story. If you add something, it may be something other, unpublished, background may contradict, and it could have to be re-written. We can't give you a list of every unpublished item on file, but we can answer specific questions about whether a particular concept would create a problem.

★ **Rules:** New rules are hard to sell, mostly because the game already has so many. You should probably try a query first.

✪ Hint: Watch *Communique* and *Captain's Log* for the production schedule. It's a waste of time to send in material for a product that isn't going to be done within the next year. Such material goes into the file unread, and the only evaluation you are likely to get is a note of which file we put it in. We are currently filing material for sublight battles, operational movement, second-generation X-ships, and all new empires unread and unevaluated.

★ **Ships:** It's hard to come up with something here. The game has 1000 ships with another 50 or 75 on file and already approved. Still, it does happen, and you are welcome to try. Draw your SSD neatly on graph paper (or use your favorite graphics program). Some ships that are not accepted: captured/converted ships, use of foreign technology, excessive weapons or power, new empires. There is one particular category that deserves note: the Obvious Variant, e.g., sticking special sensors on the only basic hull type of a given empire not already used as a scout. While such a ship may be published, it generally is not credited to any specific one of the dozens of gamers who suggested it.

★ **New Empires:** These are not being accepted for consideration and will be filed unread. We do not expect to consider new empires in the foreseeable future except under our Stellar Shadows program of non-historical material, and in such cases the designer must pay for printing the product (in exchange for a share of its profits).

✪ Hint: We are always getting material with a note saying that the author knows it cannot be used but that he would appreciate it if we would have an evaluation done and send it back. Sorry, but we are having enough trouble getting new products on the market without stopping to evaluate something we already know can never be published.

★ **Product ideas** relating to the *Star Fleet Universe* background but not to *SFB* or *F&E* will be considered.

★ **Software:** We are not currently considering computer software.

Authors submitting material used in *Captain's Log* will be paid at standard rates set from time to time by ADB. Authors submitting other material used in a future product will receive a copy of that product or other compensation at the discretion of ADB. Subsequent development and/or re-use of the same material is not generally subject to further compensation. (Current rates are a free copy of the product for small items used in it such as a ship, story, scenario, or rule. Larger or multiple submissions are paid at $15 per page.)

In cases where an author only suggested the idea, or where it was something relatively minor or obvious, published credit as the designer may be the only compensation offered.

Authors warrant, by their submission, that it is entirely their own work and does not violate any copyrights or other rights. Authors will be held responsible for any such violation of rights.

TAKE NOTE! Submission of any material is considered to be acceptance of these terms without reservation, which are legally binding on all submissions not specifically exempted by the Bureau in advance and in writing.

For additional details, contact the Bureau.

(Z9.4) COPYRIGHT & LICENSING

This information has been updated in (Z36.0) on page 2.

(Z10.0) NOTES ON *MODULE C1*

(Z10.2) DESIGNER'S NOTES

This module introduces three new empires to the *STAR FLEET BATTLES* game universe.

(Z10.21) THE HYDRANS are arch-enemies of the Klingons (and Lyrans). They use the short-range fusion beam and long-range hellbore weapons. Most of their ships are hybrid warship-carriers designed to use stinger fighters to supplement their firepower. Their most devastating weapon, however, is the short-range gatling phaser.

(Z10.22) THE LYRANS are Klingon allies and the enemies of both the Hydrans and Kzintis. Feline creatures, they are savage in combat. Their ships are armed similarly to the Klingons, but use the Expanding Sphere Generator instead of drones.

(Z10.23) THE WYNs live in the small WYN Star Cluster, a neutral enclave at the Klingon-Lyran-Kzinti border. Their population is made of largely of Kzintis and Lyrans, but includes refugees and soldiers of fortune from across the galaxy. Protected by the deadly WYN Radiation Zone, their rag-tag fleet of converted freighters and captured frigates can barely protect their freedom.

(Z10.24) INTENT: The original intent of these three empires, an intent that is carried forward by this module, was to explore different means of fleet organization and tactics. As all tactics are dictated by the weapons at hand (just as operations are dictated by vehicles and strategy by geography), the formations and combat doctrine of the empires is based on their armament.

Hydran battle formations and attack doctrine are based on their fighters and the interaction of the fusion beam (run toward the enemy with unloaded weapons, take his shot with the unified hull as an internal shield, then arm the weapons at the start of the next turn and destroy him) and the hellbore (stand back and take him apart with imploding weapons).

Lyran tactics and formations are dependant on the necessary intervals between ESG fields, or the need to be inside the field of another ship when that ship is activated. Like the Klingons, the Lyrans depend on getting up close and personal and pounding you to death with the "little hammer" (i.e. their disruptors). Unlike the Klingons, they have the ESG as a "big hammer" to smash their enemies.

The WYNs are unique in having their tactics dictated by their geography. Enemy ships entering the cluster are at a severe penalty, but only for a few turns. The WYN ships, which any decent fleet would brush aside as the flotsam and jetsam they are, become dangerous opponents for crippled ships that have just passed through the radiation belt.

When plans for the "Doomsday Edition" of *SFB* were being made, it was decided to separate out the "new empires" into separate modules, and the C-series (New Worlds) were born.

(Z11.0) NOTES ON *MODULE C2*

(Z11.2) DESIGNER'S NOTES

This module adds three more new empires to the *Star Fleet Universe*. These empires, like those in *Module C1*, also bring new tactics and formations into view.

(Z11.21) THE ANDROMEDANS: The Andromedans are easily the most unusual empire in *SFB*. Most of their technology works nothing like that of the Galactic Powers. Their Power Absorber panels (which they use instead of shields) soak up damage from enemy weapons and use it to power the Andromedan weapons! Their displacement device allows them to move your ship around the map, and even to the molten core of a planet!

(Z11.22) THE INTERSTELLAR CONCORDIUM was neutral during the General War, and spent the time designing a fleet that could conquer the galaxy (to save it from itself) at the first opportunity. Their entire fleet is designed around the use of the echelon formation, a battle tactic made possible only by the long-range fire of the dreaded Plasmatic Pulsar Device.

(Z11.23) THE NEO-THOLIANS are, in some ways, an old empire, and in other ways an entirely new one. Their ships have the disruptors and phasers and web generators of the original Tholians, but they also have the Web Caster that is able to toss web in front of enemy ships, between allies, or to stop drones.

(Z11.24) INTENT: As with *Module C1*, the purpose of this module is to further explore fleet formations and tactics that incorporate new technology.

The Andromedans are totally different in every regard from the Galactic Powers. Their technology works differently, and their entire energy-manage system is unlike anything in the Milky Way. Andromedan ships are fast and deadly, and have unique abilities, such as suddenly teleporting several hexes or launching a full-sized destroyer that opens fire on you.

The ISC are a Galactic Power and a plasma empire, and hence will seem more familiar. However, their unique weapons (rear-firing torpedoes and the long-range PDD) require very different tactics.

The Neo-Tholians are Tholians in some regards, Klingons in other ways, and totally unique in still other respects. Their ships are large and powerful, and can do any of the annoying things that Tholian ships can do. Beyond that, their ships are large and powerful, with engine-mounted disruptors, making them very worthwhile combat ships. And then, to make themselves totally unique, they have the Web Caster, able to place web in the middle of an enemy fleet. And in the *Captain's Edition*, they can throw this web straight at you as the punishing Web Fist.

(Z12.0) NOTES ON *MODULE J*

(Z12.2) DESIGNER'S NOTES

In trying to play a game about 23rd Century combat using a 20th Century mentality, perhaps nothing has suffered more than the "fighter-shuttle." Such shuttles were designed and intended to be simple firepower platforms that could be carried on board a ship. While capable, after a fashion, of performing most of the functions that our 20th Century fighter was designed for, the warp-powered fighter of the *STAR FLEET UNIVERSE* is not as capable as a starship, nor was it ever intended to be. Consider:

- **FIREPOWER:** A single A-6E could, in 1983, carry three 2000# laser-guided bombs, any one of which would be more than capable of crippling a destroyer or frigate (all three could just about destroy a cruiser). Yet, in the *STAR FLEET UNIVERSE*, a single A-10 could score at most 12 points of damage (assuming a photon and phaser-3), hardly enough to penetrate the shields of a destroyer. Even the type-I drones (assuming they hit) could barely penetrate a shield.
- **CARRIER SIZE:** Even the massive CVA classes carry only 28-34 shuttles and fighters; the CVN *Nimitz* in 1980 carried over 90. In the 20th Century, a carrier strike wing of 50-70 aircraft would have the power to devastate any enemy fleet it encountered. In the *STAR FLEET UNIVERSE*, a carrier's strike force of 12-24 fighters is hardly a match for a single cruiser or a small squadron. They were never meant to be! They were intended to provide a friendly "cruiser" or squadron with additional firepower during a ship-to-ship confrontation. As such, fighters in the *STAR FLEET UNIVERSE* are more akin to 20th Century helicopters equipped with anti-ship missiles. The firepower of fighters can still be calculated, however, and independent operations are possible if the target is within the limits of the fighter squadron's ability.
- **FIGHTER SPEED:** Within the *STAR FLEET UNIVERSE*, fighters are simply not as fast (strategically) as starships, and without the dangerous booster packs, the fighters are not as fast in tactical situations either. This requires considerably different tactics than in the 20th Century, where fighters would normally be 20 or more times as fast as ships they were attacking.
- **FIGHTER RANGE:** The relatively short range of fighters in the *STAR FLEET UNIVERSE* precludes their use for strategic attacks

and limits "independent" operations to within, at most, a one-hex range on the *FEDERATION & EMPIRE* maps. This limitation is not apparent in *STAR FLEET BATTLES*.

All of the above should not be taken as saying that "fighters" are useless because they cannot do what "fighters" in an earlier era could do. They are highly useful in the role they were designed for (firepower supplementation) and can be effective "economy of force" units on border patrol, where they can stop and engage the odd pirate or enemy marauder as well as any frigate could.

(Z13.0) NOTES ON *MODULE K*

(Z13.2) DESIGNER'S NOTES

This module provides a complete history of the development of attrition units during the second half of the General War. The earliest attrition units, fighters, were developed in *Module J*.

Both Interceptors and PFs were designed as attrition units: small fighting units that could be quickly produced in factories. Their primary advantage over fighters was range and their ability to repair themselves (albeit to a limited extent) and to reload their energy-based weapons. Interceptors showed that the concept was valid, but that a larger hull was necessary. The PF is, simply, the largest hull that can operate on the unstable "hot warp" engines first developed by the Lyrans.

Several important design concepts deserve separate mention.

INTERCEPTOR SHIELDS: The concept of two 180° shields on an interceptor solved several game problems. Interceptor shields obviously had to be weaker than PF shields, but those shields were already barely able to stop a single drone or heavy weapon. The original 6-box shields would have been little better than nothing. We considered a unitary shield (such as that used by fighters), but Ray Olesen pointed out the need to have some shielding left to protect the ship in a retreat.

PF LEADERS: The problem is that the PF engines provide a very definite limit on how big something can be and still act like a PF. Under no circumstances can more weapons or engines be added as these are already at their limits. Leaders were intended to provide certain special functions (shuttle, transporter, tractor).

FEDERATION PFs, PFTs, AND INTERCEPTORS: The Federation never built PFs or Interceptors. The decision seems to have been a philosophical one, and not everyone in Star Fleet agreed with it. But the records do not show a mere lack of data on Federation PFs (hinting that the file on such vessels may yet be found and translated), but contain repeated clear statements that no such ships were even designed.

For this reason, the PF, NPFT, and Interceptor are labeled as "conjectural," which is defined by Webster as "in the nature of guesswork." No such ships existed, but if they had, the designer and committee are convinced that they would look very much like the designs published here.

The Thunderbolt-class PF and the Mustang-class Interceptor are the most controversial item ever published. The Committee was clearly not comfortable with such units. Even so, there were three reasons for printing a Federation PF. The first was because of widespread demand for one, and the refusal of many players to accept its absence. By 1985, there had been at least 300 proposals received from players. All were discarded or returned "because the Federation never built PFs."

The second reason was to allow the Federation players something they could use in generic scenarios and mini-campaigns that call for each player to use a "PF flotilla from his empire."

The third reason, and the one that finally secured Committee approval, was the discovery that many campaigns already included locally-designed Federation PFs, presumably because the Federation player talked his opponents into it. Publishing the Thunderbolt-class in this product will, at least, allow those campaigns already using Federation PFs to use the "official" one.

The use of this "conjectural" unit is left up to the players. If the members of a campaign decide to allow its use, so be it. If not, that is their business. The designer and publisher take no position on whether such a unit should or should not be used. If you want a Fed PF in your campaign, here it is. If you don't, please ignore it.

Two aspects of this most controversial unit were, in themselves, the subject of extreme controversy. The first of these is the gatling phaser. Many players assumed that, since the Federation had that equipment, it would use it on a PF. Closer analysis shows, however, that the ship-mounted gatling is in VERY limited Federation service (only on carriers and their escorts). Under no circumstances should that weapon be installed on a Federation PF, or indeed on any PF except a Hydran (or possibly Orion).

The second aspect is the range of the photon torpedo. As Federation PFs were never built, there is some dispute as to whether the photons on such a craft can fire 30 hexes. This was finally resolved with the decision that photons on PFs and fighters are limited to range 12.

In the end, the Federation PF was published because some players wanted one, and our responsibility is to provide a "correct" unit for use. Those who wish to ignore it may continue to do so.

NOTES ON THE 1991 REVISIONS TO PFs: Veteran players of *SFB* know that the PFs were originally published in the ancient *Designer's Edition* and again in the subsequent *Commander's Edition*. When they were brought forward to the Doomsday Edition, we added some new material and revised some of the older material and designs. New players just coming into the system will find these following notes irrelevant as they never had to deal with the old versions.

There are three "new" rules.

K6 Engine Degradation is intended to reflect those few cases where PFs were forced into combat at the end of their patrol range. The trigger levels were set intentionally too high for them to ever come into play, thereby allowing each scenario where the rule is used to set pre-scenario points and target engine failure for key turns.

K7 Death-Riders were created by Steve Petrick from two slightly different sets of special scenario rules. As veteran players know, many rules in *SFB* began as special scenario rules and then were rewritten for standard use in other scenarios.

K8 isn't really new; it's just a re-edit of the old Fighter Pilot rule (J6.0). The old Commander's Edition simply said that PFs could use J6 and never really got around to explaining how.

We looked at each PF and found most of them adequate and not overbalanced. A few, however, were revised.

The Orion was well-known to be ridiculously overgunned with six heavy weapons and a phaser. Few used it in its original form, and we are indebted to years of player comments for the new design. It's still the most dangerous PF in space, but now it's not a gamebreaker.

The Hydrans lost a gatling (replaced with a ph-2), and the Hellion got back the phasers it needed in exchange for the power it didn't. The gatling disappeared when we ran a complete firepower analysis (with six levels of EW adjustment) and found the Hydrans out of line. Swapping one gatling for a ph-2 left them the most dangerous close-range opponent, but no longer instant death.

The Lyrans, who (the saying goes) invented PFs, were cursed with a long series of bad PF designs in the old editions, and months were spent developing the new one. The phaser-1s disappeared because history shows that there were still lots of Lyran DWs and CWs with phaser-2s, and it make no sense for the Lyrans to waste their limited supply of good fire controls on PFs.

The Feds (who never built PFs) were given the best heavy fighter in the game, the F-111. It's not a PF, but it's not bad.

The largest change was that all of the variants now have their own SSDs, and most of these were adjusted by a box or two once we actually had an SSD to look at and realized that some of the cargo PFs had 3 boxes while others had 5. Everything is neatly laid out now, so you need not trouble yourself with converting SSDs.

Survive and succeed!

Stephen V Cole, Professional Engineer, Designer of *SFB*

(Z14.0)-(Z20.0) NOTES ON OTHER MODULES

These modules (*R1* through *R5*, *S1*, and *D3*) were not used in the creation of the *Master Rulebook*.

(Z21.0) NOTES ON *MODULE C3*

This product was designed to complete the histories of two empires (the WYN and Andromedans), formally publish the most official unofficial *SFB* material (the Lyran Democratic Republic), and introduce the first new empire in six years (the Seltorians). In one sense, this material completes the *Star Fleet Universe*; in another sense, it opens doors to new vistas of savage combat and exciting exploration.

WYN WAR OF RETURN: Staff Officer Marc Cocherl first proposed the WYN "fish" ships and the "War of Return" in 1987, but they had to wait until after Doomsday for publication. The ships are superb designs and have been popular in playtesting since they were first released.

The problem with a "War of Return" was that the WYN Cluster could not possibly hope to produce enough ships to conquer the Kzinti Hegemony. The obvious solution (based on the published history) was to postulate another Civil War and have the "Fish Fleet" provide the forces to tip the balance of power. The divisions within the WYN government and the need to hire Orion mercenaries allowed us to use some fun political rules in some of the scenarios.

One complication of the "War of Return" was that it took place during the era of X-ships. It was historically impossible to print the war without including X-ships, but the official rules for those units do not exist except in playtest form. We have included an extract of X-ship rules which players will find more than adequate. When *Module X* appears, the extract in *C3* should be ignored in favor of the "real" rules.

There was not room for all of the battles of the War of Return, but you can look forward to seeing them in future products.

ANDROMEDANS: During the great Andromedan revolution during the preparation of the *Captain's Edition*, it became clear that we needed more information on the Andromedans, specifically including their ground bases and other auxiliary units, information we are happy to present here. The "sleds" came about very late in the design process as a class of ships needed to approximate the auxiliary ships employed by the Galactic Powers.

To provide a needed medium-sized base, Steve Cole designed the battle station several years ago. Tony Medici pointed out that Andromedan bases are extremely vulnerable to plasma torpedoes and suggested the Temporal Elevator as a solution. His original proposal was unworkable (and then lost to history), so Steve Cole and Steve Petrick re-invented the concept based on the Doomsday Andromedan rules. The playtesters found the Temporal Elevator less than perfect for its original mission, but found many other uses (i.e., making bases immune to Hydran Stingers and to drones, finessing the range, dumping power).

The trickiest part of the Temporal Elevator rules was the ESG interaction. We considered just saying that ESGs couldn't affect elevated objects, but that made the ESG useless. We considered saying that the ESG ignored the elevator and hit everything, but that didn't match the engineering. We tested a rule in which a fragment of the ESG traveled up the elevator shaft as a seeking weapon, but this required entire pages to explain the interactions. Lyran Commander Gregg Dieckhaus came up with the solution we finally used (resolve the hit immediately, but hit things at lower levels first).

The need for defenses against plasma torpedoes was extended to the PA mine. Numerous proposals for transporter mines that could not be used for Galactic Powers fit in nicely with the new Andromedan bases.

The Critical Hit rules came about when a player asked us how to adapt (D8.0) to his Andromedans.

LYRAN DEMOCRATIC REPUBLIC: This "empire" was originally designed by Stephen Koehler and was first published in Nexus Magazine #13, then reprinted in *Commander's Rules Update #2* and then again in *Captain's Module P5*.

The LDR adds political color to the background of the universe. This neutral enclave is ethnically Lyran, but is politically independent. The combination of ESGs and gatlings has long been a favorite of the more fanatical *SFB* players who obtained the earlier products.

SELTORIANS: The original proposal for the Seltorians came from Stacy Bartley, and the history presented for them is very much the "oral history" he originally gave. There was, however, never a formal written proposal.

The web breaker was created from whole cloth after the previous "Jericho Project" failed to produce an adequate anti-web weapon. Shield cracker was added for three reasons: it explained why no one noticed the addition of web breaker to Seltorian ships, it balanced their firepower, and it was consistent with the "swarm marines" background.

The particle cannon was originally designed by Bruce Graw for a new empire proposal that was not accepted. Ken Burnside extensively modified it for consideration in the search for a new Seltorian weapon. (The staff and players quickly convinced the two Steves that the galaxy did not need another disruptor empire.) The design of the weapon then underwent two further radical revisions, each seeking a balanced weapon that was something new rather than just a mix of rules from existing weapons.

The resulting particle cannon is a fascinating weapon because it is so radically different from galactic weapons, in ways not entirely obvious. For example, it is the only weapon which can be overloaded and then still fire a standard-load shot. This is due to the "capacitor" system, into which you put power when you have it and from which you take power when you need it. While it cannot use reserve power at the moment of firing (if the capacitor is full), it doesn't need to since it has its own reserve power. The particle cannon is, in some ways, like a slightly weak disruptor that can fire twice per turn.

The ship design concept was created by Steve Cole to be "something different." Playtesting produced minor changes.

NEO-THOLIANS: Including the Neo-Tholians allowed us to also bring you the first extra-galactic *SFB* scenarios, set in the Tholian Home Galaxy. That meant that we had to provide the rest of the original Tholian fleet, so we provided the long-sought and often proposed Neo-Tholian destroyer and frigate.

SSDs for Neo-Tholians with particle cannons will have to wait for another product. (Perhaps, in that product, we will find out if there is any truth to the rumor that a Neo-Tholian frigate arrived with the original Dyson Sphere but was lost in the first battles with the Klingons.)

SCENARIOS: We prepared many more scenarios for this material than *C3* could contain, and the staff has already begun producing new scenarios at a prodigious pace. Many of these will appear in future products, including *Captain's Log* and *Module S2*.

MORE NEW EMPIRES? Some players want them (along with new weapons and systems); some only want new empires (such as the Frax) which use existing technology; and some do not want new empires at all. We will probably do some (*Module C4)* at some point in the future, but it took most of a decade to get these new empires ready, and it will be a couple of years before we have any more. We are NOT accepting submissions; we have dozens on file. Your comments are welcome. If you remain silent, someone else will decide the future of *SFB.—Stephen V Cole & Steven P Petrick, Amarillo Design Bureau*

(Z22.0) NOTES FOR *MODULE X1*

X-ships date back to *Nexus #2* (and prototypes before that). They appeared in various incomplete, playtest, and similar forms at various times over a decade. In *Nexus #18*, we published the "final" version of the rules for the Commander's Edition.

POWER: The key to X-ships was significantly increased power. Every *SFB* player knows that there is NEVER enough power. The ships were generally given a 33% increase in engine power, but the real secret to the success of X-ships was the triple-capacity batteries and the implications of that on reserve power.

WEAPONS: Rather than providing more powerful weapons (although a few weapons got longer ranges), we chose to give the ships an ability to fire their weapons more often. This took more energy (the same energy per shot, but more shots), which fit in neatly with the increased engine power). However, even the earliest testing showed that the result of this was to have the ships move to close range and just sit there and blast away with weapons at full bore every turn, which didn't make for much fun. To turn the fast-load system from the normal way that the ships fought into a special situations rule that you would use only when tactics required it, we

provided all of the fast-load weapons with a misfire probability. Later testing showed that the original rules (in which a misfire damaged the ship) were too severe, so we moved to a system where a misfire simply costs you the energy and the ability to fire that weapon for one turn.

The debate over X-drones vs. X-phasers was intense, and we finally cut back on the firing rate of overloaded X-phasers. This also forced a change in the proposed rule for plasma torpedoes, which in earlier drafts lost a point of strength for every *three* phaser damage points, and now (finally) lose strength at the same rate as non-X plasmas.

INCREASED DAMAGE CONTROL: Because X-ships would be off by themselves a lot (the "flying squadron" concept), we provided increased Damage Control ratings. The Orions, who already had the increased ratings for just that "off by themselves" mission, did not merit a further increase.

REJECTED IDEAS: We have received many proposals, some of which were given full-scale playtesting while others were rejected outright. Some of those tested did not survive the experience. Here is a list of rejected proposals for the information of those who have seen playtest copies of them: pulsed fusion, photon shotgun, speed-64 drones and plasmas, shield pods for fighters, X-fighters for empires other than the Hydrans, Kzinti new DD class, deleting all references to ph-2s, reducing all 8-impulse delays to 6 impulses, various disruptor improvements, X-admin shuttles, hastily-repairing X-systems as non-X-systems, Cx-drone racks with six spaces, shotgun PPTs, and more.

THANKS to those players who took time out from their gaming to send us reports on all of the previous drafts of the X-ship rules and let us know their thoughts (and our goofs!): Jerry Bookter, James Bradley, Sam Clark, Ken Cole, Andrew Cookson, Earl Cooley, John Crawford, Jim Davies, Charles Davis, David Everett, Stephan Fassmann, J. Joseph Felten, Gary Forbis, J. German, Garth Getgen, Jefferson Gilkey, Edward Holzman, James Huskey, David Jensen, Ken Kazinski, Brian Kelly, J. J. Miranda, Brian Ray, Rodney Reineke, Michael Rogers, Bryan Schenk, Joe Stevenson, Trent Telenko, Jim Todd, Mike Vinarcik, James Wagner, Jake Whitmore, Larry Wolfsbane, Jeff Zellerkraut.

SPECIAL THANKS to retired staff officers who participated in development of these rules during their tenure: Chris Cafiero, Bill Heim, and especially Scot McConnachie.

FINAL WORD: X-ships, like the rest of the game, are here to provide entertainment. Use them in good fun!—*SVC*

(Z23.0)-(Z35.0) NOTES ON OTHER MODULES

None of the following notes are particularly relevant to this manual, although some of the design credits are included in (Z37.0).

Z22.0 NOTES: *MODULE X1*
Z23.0 NOTES: *MODULE F1*
Z24.0 NOTES: *MODULE M*
Z25.0 NOTES: *MODULE C4*
Z26.0 NOTES: *MODULE R6*
Z27.0 NOTES: *MODULE S2*
Z28.0 NOTES: *MODULE R7*
Z29.0 NOTES *ON MODULE Y1*
Z30.0 NOTES *ON MODULE TR*
Z31.0 NOTES *ON MODULE J2*
Z32.0 NOTES *ON MODULE A+*
Z33.0 NOTES *ON MODULE R10*
Z34.0 NOTES *ON MODULE R8*
Z35.0 NOTES *ON MODULE R9*
Z36.0 NOTES *ON MODULE G2*
Z37.0 NOTES *ON MODULE F2*
Z38.0 NOTES *ON MODULE R11*
Z39.0 NOTES *ON MODULE X1R*
Z40.0 NOTES *ON MODULE Y2*
Z41.0 NOTES *ON MODULE G3*
Z42.0 NOTES *ON MODULE G3A*
Z42.0 NOTES *ON MODULE R12*
Z43.0 NOTES *ON MODULE Y3*
Z44.0 NOTES *ON MODULE YG3*

PLAY BY MAIL *SFB: STAR FLEET WARLORD*

Agents of Gaming operates one of the best run play-by-mail systems in all of gaming. Known as *STAR FLEET WARLORD*, it allows players to charter a corporation, explore a new galaxy, buy ships, find planets (which get you the money to buy even more ships and find even more planets), meet interesting neighbors, and conquer them! You can contact AoG at the address above for information on this exciting play-by-mail forum, or you can find a link to AoG on the main ADB web site.

SFB ON THE INTERNET

ADB Inc. operates the largest and most important *Star Fleet Battles* web site at www.starfleetgames.com where you can meet the staff, download new playtest files, ask questions (and get answers), order products on line, check out new files, and even contribute a few new ideas. You can take part in on-line discussions on our BBS at www.starfleetgames.com/discus where hundreds of gamers meet every day. As with all web sites, we are continually adding new features and opportunities.

We have a web policy regarding the use of *SFB* materials on other web sites. Obtain a copy of this policy at our web site and review it carefully before placing anything relating to *SFB* on your web site. Use common sense and ask our permission first.

REAL TIME, REAL OPPONENTS

ADB Inc. has chartered *SFB-On-Line* to run a series of on-line real-time live-opponent tournaments for *Star Fleet Battles* players. You can contact ADB Inc. for information or find a link to *SFBOL* on our web site (www.starfleetgames.com). You never have to worry about finding an opponent, and the cost for a year of gaming is less than you would pay in gas and driving time to find a live face-to-face opponent.

STAR FLEET COMMAND: COMPUTER GAME

ADB Inc. has licensed Interplay (which also has a license from Paramount) to produce *STAR FLEET COMMAND*, a computer real-time simulation of combat in the Federation Star Fleet. You can, in *SFC*, do most of what you could do in *SFB* (and maybe in a future expansion you can do the rest of it). While the real-time system makes it dramatically different from *SFB's* turn-based mechanics, you will find it an exciting way to play your favorite board game.

(Z37.0) DESIGN CREDITS

The *MASTER RULEBOOK* of *STAR FLEET BATTLES* is a compilation of many different rulebooks. As such, credits for design and development must reflect both those who originally worked on this game, those who participated in its continual expansion, and finally those who worked to create the *Captain's Edition*.

This book was compiled and re-edited by SFC Stephen V Cole (Texas Guard) and Captain Steven P Petrick (US Army Reserve).
Cover Artist.....Ted Geibel
Printed by.....Dallas Offset

(Z37.1) CREDITS FROM THE ORIGINAL EDITION OF *STAR FLEET BATTLES*

Game Design .....Stephen V. Cole
Game Development .....Barry Jacobs
Developmental Playtesting .....David W. Crump, Leslie H. Dixon
Primary Consultant.....Franz Joseph Designs
Consultants.....Lou Zocchi, Jeff Maynard

Playtesting:
Amarillo, TX.....Mark Moody, R. Vance Buck, James Simms, James M. Brown, Ron Emch, Neal Hollis, Paul Knox, James Larsen, Dallas Paradise, Steve Wilcox, Kenneth Tucker, Richard "Ripcord" Giberson, Mike Giberson

Glen Burnie, MD ..... Mike Hillsgrove, Barry Richman, Paul Sangster,Robert Yates, Robert Meredith, Richard Shipley, Dave Hazel, Steve Naus, Paul Waters, Jimmy Warren
Flint, MI..... Craig L. Carey, Tony Landino, Gary Bourassa
Denver, CO..... Bill Anderson
Fort Worth, TX ..... Henry Williams

(Z37.2) CREDITS FOR DEVELOPMENT AND EXPANSION OF THE POCKET EDITION

The Commander's Edition was developed from its predecessor versions over a period of 4 years. Some of the people involved in this development include: Stephen G. Wilcox, Barry A. Jacobs, Eric Kuniholm, Mike Hillsgrove, Mike Thompson, Craig L. Carey, the Rev. Ron Wheeler, Mark Moody, Ken Hart, Richard Kerr, and Kenneth Tucker. Specific design credits are as follows:

Battlepod, Q-Ships ..... Barry Jacobs
Drone rack types, Plasma Shotgun ..... Mike Thompson
Enveloping Plasma Torpedo ..... Graeme Cree
Mass-based Movement system ..... Mike Hillsgrove
Pseudo-Pod ..... Allen D. Eldridge

(Z37.3) CREDITS FOR THE *COMMANDER'S EDITION*

Game Design ..... Stephen V. Cole, PE
Game Development ..... C. Michael Thompson, Ray D. Olesen, C. H. Graeme Cree, Josh Spencer, and Felix Hack
Review and Comment ..... David Crump, Richard Kerr, Ken Hart, Mark Moody, Frank Crull, Ken Annett, Ken Kaufman, John Graesser, R. O. Griggs, Alex Matthews.
Consultants ..... Lou Zocchi, Franz Joseph Designs

(Z37.4) CREDITS FOR *THE CAPTAIN'S EDITION*

Game Design ..... Stephen V. Cole, PE
Executive Developer ..... Steven P. Petrick
Chief of ADB Operations ..... Leanna M. Cole
Star Fleet Committee ..... Ray D. Olesen, Frank Crull, Keith Velleux, Owen Riley, Scot McConnachie.
Product Staff (1990 Edition) ..... John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Jim Hart, Bill Heim, Stewart Frazier, Anthony Medici, Marc Michalik, Eric Nussberger, Scott Olson, Rob Patterson, Evelio Perez-Albuerne, Steve Rossi, Steve Rushing, Mark Schultz, Tony Zbaraschuk.
Additional Staff (94 Edition) ..... Ken Burnside, Chris Cafiero, Jon Cleaves, Mike Filsinger, Bruce Graw, Jeff Laikind, Scott Mercer, Gary Plana, Chuck Strong, Reece Watkins, Cliff Yahnke.
Additional Staff (99 Edition) ..... Joe Butler, Richard Eitzen, Mike Calhoon, Jim Hart, Garth L. Getgen, Scott Moellmer.
Development (83-89) ..... Stacy Bartley, Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike West, Graeme Bayless.
Graphic Design and Layout ..... Leanna M. Cole
Chief of ADB Security ..... Blackie
Security Staff ..... Waylon, R. Rex
Production & Marketing ..... Stephen V Cole
Computer Art ..... Stephen V. Cole, Aldus Freehand

(Z37.5) CREDITS FOR THE ORIGINAL DESIGNER'S EDITION EXPANSIONS

The vast majority of *Star Fleet Battles* has been designed by Stephen V. Cole and developed by the Committee. Many people, however, have contributed ships, scenarios, and rules that were included in the original Designer's Edition expansions, and these people are listed here. Anything not otherwise listed was designed by Stephen V. Cole and developed by the Committee.

Design ..... Stephen V Cole, PE
Development ..... Steve Wilcox, Mike Thompson, Graeme Cree, Ray Olesen, Josh Spencer, Felix Hack.
Consultant ..... Franz Joseph Designs

(Z37.6) CREDITS FOR *COMMANDER'S EDITION*

Game Design ..... Stephen V. Cole, PE
Game Development ..... Graeme Cree, Felix Hack, Ray Olesen, Josh Spencer, Mike Thompson, Jeff Smith, Frank Crull
Playtesters ..... Karl Bergman, Darwin Boyle, Billy Brown, Jack Chappelear, Marc S. Cocherl, Carolyn Greenberg, Tom Hammond, Alan Gopin, Ardak Kumerian, Burke McCrory, Walter Mizia, Eric Pinnell, John C Pini, Terry R Shrum.
Rules Editing ..... Leanna M. Cole
Consultants ..... Franz Joseph Designs, Lou Zocchi

Various new rules sections were tested by playtest groups headed by: Frank Crull, Jeff Smith, Tom Hammond, Mike Thompson, Terry R. Shrum, Karl Bergman, Frank Suchar, Darwin Dan Boyle, Bruce Burdick, David M Porter, and Alex Matthews.

If any single person is responsible for the success of *Star Fleet Battles*, it is my wife Leanna. Few wives would sacrifice years of vacations, entertainment, and weekends to allow their husband to design a game. She has not only been supportive, but the firm hand of her management at ADB has been the single greatest factor in keeping the *Star Fleet Universe* moving.--*S.V.C.*

(Z37.7) CREDITS FOR DESIGN OF SECTIONS OF *ADVANCED MISSIONS*

The following personnel wrote or suggested the original rule on each of the listed sections. All of their original designs were extensively tested, modified, expanded, and revised in the years that the game has been developed.

Anything not otherwise listed was designed by Stephen V Cole and developed by the Star Fleet Staff.

C12.0 ..... Speed Changes ..... Ken Kaufman
D14.0 ..... Emergency Repair ..... Ken Kaufman
D17.0 ..... Tactical Intelligence ..... Jeff Smith
E8.0 ..... Mauler ..... Todd Travis
FD7.0 ..... Scatter-Packs ..... Patrick Dignam
FD9.0 ..... ECM Drones ..... Mike Thompson
FD10 ..... Drone Construction ..... Alan Gopin
FD14 ..... Spearfish Drone ..... Tom Carroll and others wrote the revised rules
FP9 ..... Plasma-D ..... Jeff Smith
G21.0 ..... Crew Quality ..... Mike Thompson
G25.0 ..... Cargo Rules ..... Charles Hughes Graeme Cree
P9-14 ..... Terrain ..... Charles Hughes Graeme Cree
R ..... Ships ..... Listed with each ship
S ..... Scenarios ..... Listed with each scenario

(Z37.8) CREDITS FOR THE *CAPTAIN'S EDITION OF ADVANCED MISSIONS*

Game Design ..... Stephen V. Cole, PE
Executive Developer ..... Steven P. Petrick

Senior Rules Analyst.....Scot McConnachie
Layout & Graphics.....Leanna M. Cole
Star Fleet Committee.....Ray D Olesen, Frank Crull, Keith Velleux, Owen Riley.
Star Fleet Staff.....John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Jim Hart, Mike Hault, Bill Heim, Marc Michalik, Scott Olson, Rob Patterson, Evelio Perez-Albuerne, Steve Rossi, Mark Schultz, Tony Zbaraschuk.
Retired staff members (83-89).....Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike West, Stacy Bartley, Anthony Medici, Eric Nussberger, Steve Rushing, Felix Hack.

(Z37.9) CREDITS FOR THE 1999 EDITION OF *ADVANCED MISSIONS*

Game Design.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick
Senior Rules Analyst.....Tony Zbaraschuk, Michael Filsinger, Jeff Laikind (F&E)
Layout.....Leanna M. Cole
Computer Graphics.....Stephen V Cole
Star Fleet Staff.....John D. Berg, Gregg Dieckhaus, Stewart Frazier, Ken Burnside, Joe Butler, Jon Cleaves, Bruce Graw, Scott Moellmer, Gary Plana, Chuck Strong, Richard Eitzen, Mike Calhoon, Patrick M. Abram.
Production.....Stephen V Cole

The 1999 edition of SFB Basic Set and Advanced Missions was dedicated to ADB Security Chief Blackie, the Rabbitslayer, for 17 years of faithful service. He is missed.

(Z37.10) DESIGN CREDITS FOR THE *CAPTAIN'S EDITION MODULE C1*

Game Design.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick
Senior Rules Analyst.....Scot McConnachie
Layout & Graphics.....Leanna M. Cole
Star Fleet Committee.....Ray D Olesen, Frank Crull, Keith Velleux, Owen Riley.
Star Fleet Staff 1991.....John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Jim Hart, Mike Hault, Bill Heim, Marc Michalik, Scott Olson, Rob Patterson, Evelio Perez-Albuerne, Steve Rossi, Mark Schultz, Tony Zbaraschuk.
Retired staff members (83-89).....Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike West, Stacy Bartley, Anthony Medici, Eric Nussberger, Steve Rushing, Felix Hack.
Typesetting.....Microsoft Word 4.0, Macintosh IIci, Leanna M. Cole.
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex.

ORIGINAL CREATORS OF THE THREE EMPIRES
Jim Curtis.....Lyran Background, original ships, ESG.
Mike Thompson.....WYN Background and original ships.
Andrew Robinson.....Hydran Background, original ships, fusion beams, hellbores.

(Z37.11) DESIGN CREDITS FOR THE *CAPTAIN'S EDITION, MODULE C2*

Game Design.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick
Senior Rules Analyst.....Scot McConnachie
Layout & Graphics.....Leanna M. Cole
Star Fleet Committee.....Ray D Olesen, Frank Crull, Keith Velleux, Owen Riley.
Star Fleet Staff.....John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Jim Hart, Mike Hault, Bill Heim, Marc Michalik, Scott Olson, Rob Patterson, Evelio Perez-Albuerne, Steve Rossi, Mark Schultz, Tony Zbaraschuk.
Retired staff members (83-89).....Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike West, Stacy Bartley, Anthony Medici, Eric Nussberger, Steve Rushing, Felix Hack.
Typesetting.....Microsoft Word 4.0, Macintosh IIci, Leanna M. Cole.
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex.
Cover Art.....Ken Mayfield

ORIGINAL CREATORS OF THE THREE EMPIRES
G. W. Redmond & S. W. Barton.....Andromedan background, original ships, power absorbers, TR beams, displacement device.
Michael Woodcock.....Neo-Tholians, ships, web caster.
Josh Spencer.....ISC background, original ships, PPD.

ORIGINAL CREATORS OF RULES AND TECHNOLOGY
E13.0.....Tholian Snare.....Scott Donaldson

(Z37.12) DESIGN CREDITS FOR *MODULE C3*

SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick
Senior Rules Editors.....Scot McConnachie, Tony Zbaraschuk
Project Staff.....John Berg, Ken Burnside, Chris Cafiero, Tom Carroll, Jon Cleaves, Marc Cocherl, Frank Crull, Gregg Dieckhaus, Stewart Frazier, Bruce Graw, Bill Heim, Jeff Laikind, Scott Mercer, Ray D. Olesen, Gary Plana, Mark Schultz, Chuck Strong, Keith Velleux
Production, ADB.....Leanna M. Cole
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex
Computer Artist.....Stephen V. Cole

(Z37.13) DESIGN CREDITS FOR *MODULE J*

Game Design.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick, IN
Senior Rules Analyst.....Scot McConnachie
Layout.....Leanna M. Cole
Production.....John Olsen
Star Fleet Committee.....Ray D Olesen, Frank Crull, Keith Velleux, Owen Riley.
Star Fleet Staff 1991.....John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Mike Hault, Bill Heim, Marc Michalik, Scott Olson, Paul Paella, Robert Patterson, Steve Rossi, Mark Schultz, Tony Zbaraschuk.
Retired staff members (83-90).....Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike

West, Stacy Bartley, Anthony Medici, Eric Nussberger, Steve Rushing, Jim Hart, Evelio Perez-Albuerne, Felix Hack.
Typesetting.....Microsoft Word 4.0, Macintosh IIci, Leanna M. Cole.
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex.
Graphics.....Leanna M Cole, Stephen V Cole.
Dogfighting Rules, MRS.....C Michael Thompson
Fighter pods.....Steve Cole, Steve Petrick, Tom Carroll, Tony Zbaraschuk, William Wells, Gregg Dieckhaus, Keith Velleux, Kevin Reppert, Jonathan Wagner, and Jeff Joseph all suggested various types of pods, although no pod can be credited to a single designer.

(Z37.14) DESIGN CREDITS FOR *MODULE M*

SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick, IN
Senior Rules Editor.....Tony Zbaraschuk
Project Staff.....John Berg, Ken Burnside, Jon Cleaves, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Bruce Graw, Jeff Laikind, Scott Mercer, Ray D. Olesen, Gary Plana, Chuck Strong, Keith Velleux
Production, ADB.....Leanna M. Cole
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex
Computer Artist.....Stephen V. Cole

(Z37.15) DESIGN CREDITS FOR *MODULE X1*

SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick, IN
Senior Rules Editor.....Tony Zbaraschuk
Project Staff.....John Berg, Ken Burnside, Jon Cleaves, Marc Cocherl, Frank Crull, Gregg Dieckhaus, Bruce Graw, Jeff Laikind, Scott Mercer, Ray D. Olesen, Gary Plana, Chuck Strong, Keith Velleux, Cliff Yahnke.
Production, ADB.....Leanna M. Cole
Chief of ADB Security.....Blackie
Security Staff.....Waylon, R Rex
Computer Artist.....Stephen V. Cole

(Z37.16) DESIGN CREDITS FOR *MODULE K*

Game Design.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick, IN
Senior Rules Analyst.....Scot McConnachie
Layout & Graphics.....Leanna M. Cole
Star Fleet Committee.....Ray D Olesen, Frank Crull Esq, Keith Velleux, Owen Riley Esq
Star Fleet Staff.....John D. Berg, Tom Carroll, Marc Cocherl, Gregg Dieckhaus, Stewart Frazier, Mike Hault, Bill Heim, Scott Olson, Rob Patterson, Mark Schultz, Tony Zbaraschuk
Star Fleet Staff Assistants.....Bill Walter, Jeff Laikind, Ken Stith, Bruce Graw
Retired staff members (83-91).....Josh Spencer, Ken Kaufman, Jeff Smith, Alan Gopin, Steve Kay, Ron Spitzer, David Zimdars, Mike West, Stacy Bartley, Anthony Medici, Jim Hart, Evelio Perez-Albuerne, Steve Rossi, Eric Nussberger, Steve Rushing, Felix Hack, Marc Michalik
Staff Review (2000).....Scott Moellmer, Patrick Abram, Richard Eitzen, Michael Calhoon, and Stewart Frazier.
Publisher ADB, Inc.
Chief of ADB Security.....Ramses
Security Staff.....Isis
K3.0 Interceptors.....S J Cutforth, Staffordshire, UK
K7.0 Death-Riders.....Steven P. Petrick

(Z37.17) DESIGN CREDITS FOR *MODULE J2*

SFB Designer.....Stephen V. Cole, PE
Module J2 Designer.....Steven P. Petrick, IN
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Project Staff.....John Berg, Ken Burnside, Jon Cleaves, Mike Filsinger, Stewart Frazier, Andrew Harding, Jeff Laikind, Chuck Strong, Mike West.
PLAYTESTERS
Battle Lab #1 Colorado.....Scott Moellmer, Aaron Brown, Craig McRae, Jennifer Moellmer, Simon Seibert, Andy Vancil, Dan Hoffacker, Ken Howell.
Battlegroup Baltimore.....Andy Palmer, Dave Cross, Dale Davis, Mark Gratkowski, Ryan Peck, Dave Markowitz, Robert Schirmer.
Battlegroup Australia.....Andrew Harding, George Gabriel, Keith Gillies, Charles Pare, John Wouters.
Battlegroup Seattle.....Alex Chobot, Jon Luckhaupt.
Battlegroup Jacksonville.....Craig Horvath, George Gross, Christopher Horvath, Peter Horvath, Daryn Sullivan.
Battlegroup Dallas.....David Jannke, Charles Bonfield, Steve Schrader, Dan Durbin, David Miracle, Michael Nelson, Jeff Williams.
Battlegroup Tucson.....Richard Sherman, Stephen Cobb, James Curtis, Dan Grossman, Glenn Hoepfner, Robert Snook.
Battlegroup Tasmania.....Andrew Cowling, Cary Lenehan.

(Z37.18) DESIGN CREDITS FOR *MODULE Y1*

SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick
Project Staff.....Tony Zbaraschuk, Michael Filsinger, John Berg, Ken Burnside, Scott Moellmer, Joe Butler, Jon Cleaves, Stewart Frazier, Jeff Laikind, Chuck Strong, Gary Plana, Richard Eitzen, Michael Calhoon, Patrick Abram, Mike West.
Playtesters.....See Page
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Computer Artist.....Stephen V. Cole

(Z37.19) DESIGN CREDITS FOR *MODULE R10*

SFB Designer.....Stephen V. Cole, PE
Module J2 Designer.....Steven P. Petrick, IN
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Front Cover Artist.....Ted Geibel
Project Staff.....John Berg, Ken Burnside, Jon Cleaves, Mike Filsinger, Stewart Frazier, Andrew Harding, Jeff Laikind, Chuck Strong, Mike West.
Ship playtesters:.....Brian Wesley Adams , Jonathon Berry, Nick Blank, Frank Brooks, Alex Chobot, Robert Cole, Andrew Cowling, Mike Fannin, Raymond Ford, Brian R. Goudie, Jeremy Gray, Edward Grondin, Kenneth Jones, John Kasper, David Kass, Loren Knight, Stan Kolakowski, Douglas Lampert, A David Merritt, Jessica L Orsini, David Porter, Mike Raper, Richard Sherman, Scott Tenhoff, and Donovan A Willett.
Plasma Project Playtesters:.....Ahmad Abdel-Hameed, Peter D Bakija, Tony Barnes, James A Beggs, Jonathan Biggar, Randall Black, Nick Blank, Rodger Burns, Ken Burnside, Alex Chobot, Geof Clark, Sam Clark, Geoff Conn, Tos Crawford, Jim Davies, Mike Filsinger, Andrew Harding, Robert Herneson, Glenn Hoepfner, Ken Humpherys, David Kass, Mark Kuyper, David Lang, Les Leblanc, Kevin M McCollum, Jonathan McDermott, Mark Means, Scott Moellmer, Kerry E Mullan, Jessica Orsini, Andy Palmer, Wesley Phillips, Ryan Peck, Piotr Orbis Proszynski, Philippe Roby, Tim Rodgers, Richard Sherman, Robert Snook, Mike West, Michael Wheatley, Jeff Williams.

(Z37.20) DESIGN CREDITS FOR *MODULE R9*

SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick, IN
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Ted Geibel
Project Staff.....Michael Filsinger, Andrew Harding, Mike West, Nick Blank, Paul Franz, Scott Moellmer.
Playtesters and Proofreaders.....Alex Chobot, Robert Cole, Paul Franz, Jessica Orsini, Andrew Palmer, David Porter, John Sickels, Scott Tenhoff, Tony Thomas.

(Z37.21) DESIGN CREDITS FOR *MODULE F2*

DESIGN AND DEVELOPMENT STAFF
SFB Designer.....Stephen V. Cole, PE
SFB Executive Developer.....Steven P. Petrick, IN
Module F2 Designer.....LtCol, Jon Cleaves
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Ted Geibel
Vudar Portrait.....Alvin Belflower
Project Staff.....Andrew Harding, Nick Blank, Scott Moellmer, and Ken Burnside.
PLAYTESTERS
BATTLE GROUP KANSAS: Jon Cleaves, Greg Fisher, Dorian Seibert, Dave Wood.
BATTLE GROUP TUCSON: Richard Sherman, Stephen Cobb, Dan Grossman, Ed "Jesse" Hamby, Glenn Hoepfner, Mark Means, Robert Snook.
BATTLE GROUP VICTORIA (Australia): Andrew Harding, John Wouters.
BATTLE GROUP VIRGINIA BEACH: Sandy Ramirez, Ian Holland, Debbie Ramirez, Bill Vogel.
BATTLE GROUP VIRGINIA: Jeremy Gray, Justin Howell.
BATTLE GROUP WELLINGTON (Ohio): Nick Blank.
BATTLE LAB #1 (Denver): Scott Moellmer, Aaron Brown, Dan Hoffacker Ken Howell, Seth Iniguez, Dave Miller, Craig McRae, Simon Seibert, Andy Vancil.
BATTLE LAB #2 (Madison): Ken Burnside, Robert Banks, Carl Bloedow, Steve Damer, Mike Elsner, Dane Jesperson, Ken Rotar.
BATTLEGROUP BALTIMORE: Andy Palmer, Dave Cross, Mark Gratkowski, Dave Markowitz, Ryan Peck, Robert Schirmer, Ken Watanabe.

(Z37.22) DESIGN CREDITS FOR *MODULE R11*

SFB Designer.....Stephen V. Cole, PE
Module R11 Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Adam Turner
Playtesters and proofreaders.....Robert Cole, John Sickels, Scott Tenhoff, Frank Brooks, Richard Sherman, John Crawford.

(Z37.23) DESIGN CREDITS FOR *MODULE X1R*

SFB Designer.....Stephen V. Cole, PE
Module X1R Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Adam Turner
Playtesters and proofreaders.....Jon Berry, Frank Brooks, Tos Crawford, Scott Doty, Glenn Hoepfner, Kenneth Jones, Loren Knight, Scott Moellmer, Mischa Chad Robuliak, Scott Tenhoff.

(Z37.24) DESIGN CREDITS FOR *MODULE Y2*

SFB Designer.....Stephen V. Cole, PE
Module Y2 Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Adam Turner
Playtesters and proofreaders.....John Berry, Frank Brooks, Gary Carney, Tos Crawford, Mike Curtis, Jeremy Gray, Loren Knight, Dale McKee, Andrew Palmer, Mischa Chad Roubialk, Scott Tenhoff, Tony L. Thomas, Mike West.
BATTLE LAB #1: Scott Moellmer, Craig McRae, and David Miller.

(Z37.25) DESIGN CREDITS FOR *MODULE G3A*

SFB Designer.....Stephen V. Cole, PE
Executive Developer.....Steven P. Petrick, IN
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Dan Carroll
Project Staff.....Tos Crawford, Ken Kazinski.

(Z37.26) DESIGN CREDITS FOR *MODULE R12*

SFB Designer.....Stephen V. Cole, PE
Module R12 Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Ted Geibel
Playtesters and proofreaders.....Jon Berry, Frank Brooks, Gary Carney, Robert Cole, John Crawford, Tos Crawford, Jeremy Gray, Ken Kazinski, Loren Knight, Scott Moellmer, Scott Tenhoff, and Mike West.

(Z37.27) DESIGN CREDITS FOR *MODULE Y3*

SFB Designer.....Stephen V. Cole, PE
Module Y3 Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Cover Artist.....Adam Turner
Playtesters and proofreaders.....Jon Berry, Frank Brooks, Gary Carney, Robert Cole, John Crawford, Jeremy Gray, Ken Kazinski, Loren Knight, Dale McKee, Scott Moellmer, Nicholas Samaras, Scott Tenhoff, Tony L. Thomas, Mike West.

(Z37.28) DESIGN CREDITS FOR *MODULE YG3*

SFB Designer.....Stephen V. Cole, PE
Module YG3 Designer.....Steven P. Petrick, IN
Proofreading.....Jean Sexton
Chief of ADB Security.....Ramses
ADB Inspector General.....Isis
Proofreaders.....Scott Tenhoff, Mike West

DEDICATION

The Star Fleet Battles Master Rulebook

is dedicated to the men and women of the armed forces and other security organizations who risk their lives every day to build a world safe from terror.

END OF SECTION (Z0.0)

THIS PAGE BLANK

SFB MASTER RULEBOOK

THE ULTIMATE RULEBOOK FOR STAR FLEET BATTLES!

ALL THE RULES!

Included in this rulebook is all of the "rules" (no scenarios, annexes, SSDs, counters, maps, or ship descriptions) from Basic Set, Advanced Missions, C1, C2, C3, F1, F2, J, J2, K, M, X1, X1R, Y1, and Y2. All rules have been integrated into a single continuous text, all errata have been incorporated, and some new clarifications have been added, The book also includes rules (S1.0) through (S8.0) and the (R0.0) rules.

COMPLETELY UPDATED!

Edited into these rules are all of those pesky errata items, addenda, rulings, and even the answers to the most common questions.

NOTHING BUT RULES!

No annexes. No ship descriptions. No ship diagrams. No scenarios. Nothing but the rules you need to be completely up to date.

COMPLETELY ORGANIZED!

Every rule in exact numerical order. No more assembling a rulebook from pieces of a dozen products. It's all here, in order, start to finish, end to end!

This is the MASTER RULEBOOK for *STAR FLEET BATTLES*. It includes ONLY the rules.
It does not include playing pieces, ship diagrams, annexes, scenarios, ship descriptions, a map, dice, or any other material.
This unbound MASTER RULEBOOK is ready for you to install in your standard three-ring binder.

6 78554 05412 3

ISBN#1-58564-051-4 ADB $50.00

STOCK #5412

A major resource for the SFB game system.

Made in USA