The JOURNAL of the Travellers' Aid Society

Vol. 5

TRAVELLER

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CREDITS

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DAMAGE CONTROL OPERATIONS

The absolute priority in any damage control operation is save the ship. Under most conditions the situation is not so serious that crewmates have to be left to die in order to save the majority, but vessels have been lost due to the good intentions of personnel who put saving lives ahead of their first duty.

Ships can become damaged in many ways. Collisions with objects or other craft, malfunctions, fires, sabotage and enemy action all tend to cause differing kinds of damage. Even careless cargo stowage can result in containers shifting and damaging the vessel; although rare this has significant results, a cascading cargo shift under conditions of rapid manoeuvring can wreck a ship from the inside.

With so many possible ways to come to harm, it is small wonder that starships are expected to have effective damage control procedures in place. Vessels belonging to large merchant lines or military organisations run drills on a regular basis, even detaching personnel to attend seminars or receive advanced training. Other vessels must make do as best they can, though commercial training courses are available for those who feel the need to be a little better prepared.

There is a big difference between damage control and repairs, yet it is one some crews fail to comprehend. Repairs restore a ship to normal working order; damage control is about retaining enough functionality to survive the immediate situation. Sometimes it is necessary to take actions that will make later repairs more difficult and expensive in order to solve a problem and move on to something else. Those who succumb to the temptation to stick around and make a good job of one compartment may be overwhelmed by the uncontrolled disaster erupting from the next.

RULE CHANGES

These rules are intended to replace the Repair System action on Page 161 of the *Traveller Core Rulebook*, and provide for additional damage effects in combat or amidst disaster.

CASCADING HULL FAILURE

Under the starship combat rules, each time a vessel takes 10% of its Hull score in damage it suffers a critical hit. This rule remains in place, but in addition each time a 10% damage threshold is passed there is a chance the hull will begin to fail. The chance is a 12+ on 2D, with DM+1 for

every 10% of hull damage the ship has already lost. A failing hull suffers additional damage each round of space combat, at the rate of 1D Hull per 100 tons of vessel.

For example, a 400-ton vessel with 160 Hull has already taken 32 points of damage when another hit inflicts 19 more. Total hull damage is now 51, and the vessel has passed another threshold. If the referee rolls 12+ on 2D (with DM+2 for damage already existing) the hull will begin to fail. The ship will suffer 4D additional Hull loss per round until she comes apart.

A cascading hull failure may halt on its own if some particularly rugged internal component holds the vessel together. On a straight roll of 12 on 2D, no further damage occurs. Hull failure may be halted by a successful damage control action.

ADDITIONAL DAMAGE EFFECTS

Whenever a ship or craft takes damage there is a chance of additional damage effects. These can be used to add drama and tension to a battle (if any more is needed); they range from inconvenient to life-threatening. These additional effects are less crippling to a ship's systems than critical hits but may still need to be dealt with by the crew if they are to continue functioning effectively.

Additional damage effects can be secondary, such as a buckled hatch some distance from where damage occurred, due to tremors or shearing forces through the hull. However, they should be logical. A fire that breaks out at the other end of a ship from damage caused by a shifting cargo container requires some creative explanation; wherever possible the referee should choose a suitable hazard and location based upon what is currently happening to or aboard the ship.

Location

The general location of damage may be determined by in-game events; a chemical spill in the hold will cause damage effects nearby, for example. However, sometimes random locations are required. A ship hit by weapons fire or suffering damage from atmospheric buffeting could have problems almost anywhere. If this is the case, roll 2D.

2D	Location
2-4	Control and Electronics Areas (bridge, electronics bays, computer rooms, sensor systems)
5-9	Living, Working and Cargo Areas (holds, staterooms, common areas, fuel tanks, stowage)
10-12	Power and Drive Areas (drive rooms, workshops and adjoining areas)

The referee should decide on a specific area such as a group of staterooms or the drive chamber access corridor.

Severity

Additional effects are usually not very severe, but can escalate if left unattended. If random determination is required, roll 2D.

2D	Severity
2-4	Trivial. The problem is largely cosmetic and can be ignored for the time being.
5-7	Minor. The problem is not likely to escalate or be life-threatening but may cause a nuisance.
8-10	Serious. The problem needs to be dealt with or it will escalate into a life-threatening situation.
11-12	Severe. The problem is already out of hand and getting worse.

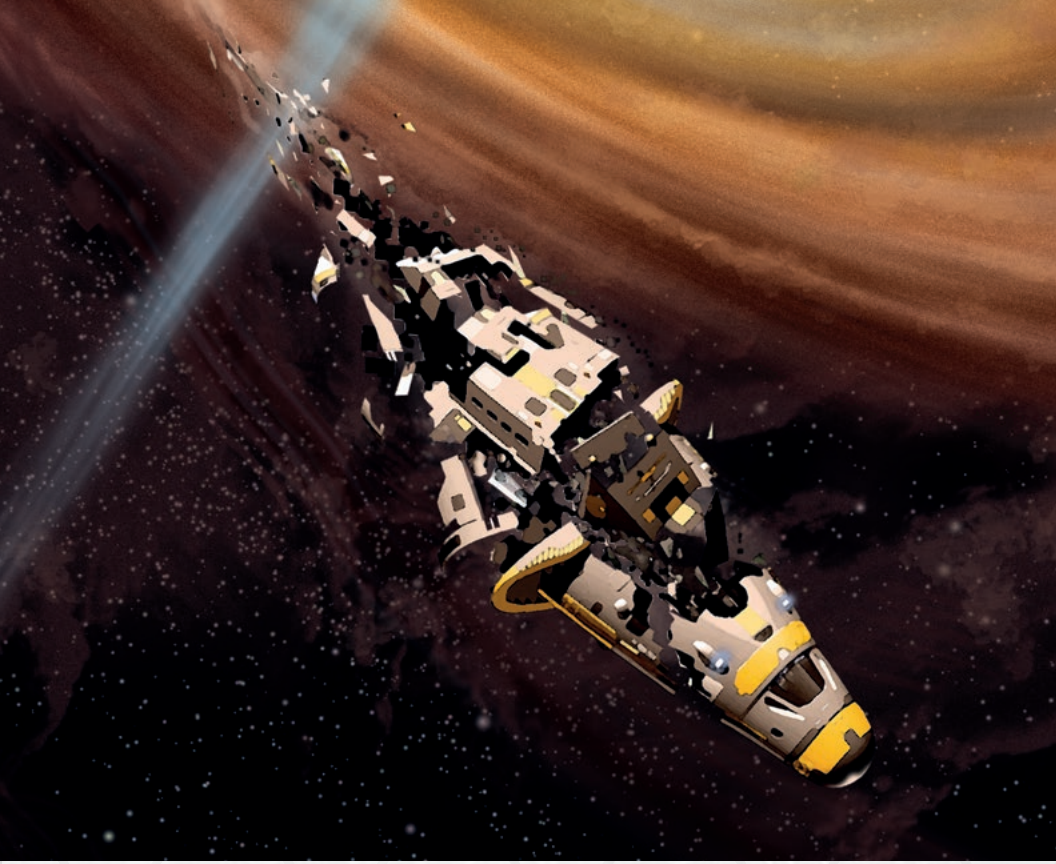
Note that the Travellers might not realise how serious a problem is. A failing bulkhead might currently have a trivial air leak but if left alone this could escalate into explosive depressurisation of the compartment. Thus Travellers will need to make checks and deal with problems – or just hope they are not too serious.

Nature

Sometimes the nature of a problem will be obvious from how it was caused; a ship that has just collided with a rock face is likely to have structural issues rather than a computer glitch, though being banged around is not good for any shipboard system. If random determination is required, roll 2D.

2D	Nature
2-3	Electronic system
4-5	Fire
6-7	General chaos but no critical systems in danger
8-9	Structure
10-11	Air or water leak
12	Major System – roll as if a Critical Hit had been received, applying the additional damage to the indicated system.

Electronic Systems might be big or small. A ship has many subsystems, some unrelated to critical functions but inconvenient. For example, an



additional damage effect might disable the climate control system for a part of the ship, making it too hot or cold, or taking out the artificial gravity.

Fires can be started in a variety of ways. Overloaded electrical systems or jammed motors can generate sufficient heat to ignite combustible materials; some compounds used or carried as cargo aboard starships are highly flammable and may be ignited by sparks or – if they are extremely unstable – simply being jarred around during violent manoeuvring.

General Chaos is a catch-all term for a situation where lockers are spring open, small items are flung around and breakables are broken. It may just look bad or can conceal something serious.

Structure implies there is a structural component problem. This might be a jammed hatch or warped corridor flooring; not too serious in itself but capable of interfering with shipboard operations.

Air or Water Leak could be internal or external. An internal water leak might be nothing more than a burst pipe causing water to slosh about the corridors; a more serious version of the same problem might have the ship

venting life-support water reserves or dumping them into an occupied compartment. Likewise, a small air leak might be nothing to worry about even if it is external, but a crew who knows that the seals on the drive room are leaking might become nervous just in case a more serious problem requires no-longer-airtight doors to be closed.

Major System effects are essentially secondary problems applied to systems indicated by the critical hit table. This can be a real problem – even a small fire on the bridge is unwelcome, and it is possible a critical compartment may have to evacuated at an inopportune moment.

The referee should play the additional damage effects for drama and tension. Amid the chaos of a space battle, the depressurisation alarms start sounding, with the damage board indicating an air leak of unknown severity in the crew common area. The galley is trashed, with the contents of every locker and cupboard strewn around and blowing in wind cause by the air leak. There is a fire in the aft electronics-systems room, the bridge bulkhead has warped and the hatch is jammed, and nobody really knows how serious any of it is…

DAMAGE REPORTING

Most ships have a 'damage board', of some kind. On military ships this a sophisticated display capable of showing the big picture or zooming in on specific problems, giving an indication of severity, likelihood of escalation, and the recommended actions to be taken. Civilian ships usually have a less complex version, and some have no damage reporting capability at all. The level of internal monitoring and damage reporting is dependent upon the ship's sensor suite.

Basic: A vessel with only basic sensors has a number of independent internal sensors which can detect changes in air pressure and temperature, the presence of smoke or airborne chemicals, and abnormally high or low power loads. Sensors are also fitted to critical hatchways and access points indicating whether they are operable or not. Information is reported by way of alarms and screens on the bridge and in engineering. A basic system does nothing more than tell the crew air is rushing out of a particular compartment and the hatch to it is inoperable in the open position. They must infer from this data what the problem might be and determine a course of action. Basic sensors give no bonus to damage control operations.

Civilian: A vessel with civilian sensors has an integrated damage reporting capability including more sophisticated sensors and the systems to use them. Hull stress is incorporated into the data, along with an estimate of the severity of any given problem. Basic sensors will tell the crew there is smoke in a compartment and the temperature is rising – and will sound the fire alarm – but civilian sensors will indicate the location of hotspots

and draw the attention of the crew to the fact that a nearby bulkhead is being warped. The damage control display also indicates what is near to the danger point and the chance of it being affected. Thus if there is a major power junction in a leaking compartment the system will highlight this but suggest that pressure loss is not likely to affect the junction's operation. However, this function is limited – civilian sensors do not create a detailed predictive model; they merely shows what is in the area and if it is likely to be affected by the problem presumed to be in effect. Civilian sensors give DM+1 to checks related to damage control, but not repairs.

Military: A vessel with military sensors has a sophisticated internal monitoring system which builds a predictive model of the situation and prioritises damage control operations accordingly. Thus where basic sensors can tell the crew there is a fire and the civilian version indicates a power junction in the area, military sensors predict how long it will be before the power junction is affected and how serious this will be. A military damage control readout can swamp untrained users with information, but can be instructed to distil out the big picture and indicate the worst crisis points. As such it can be used by any personnel who understand how to operate it, though only those with advanced damage control training can make the best use of the information available. Military sensors give DM+2 to checks related to damage control and DM+1 to checks related to repairs.

ASSESSMENT AND PLANNING

The first stage of any damage control operation is assessment and planning. Sometimes this is little more than noticing the console is on fire and deciding to put it out, but often a plan of action can make all the difference. Personnel can be distracted by noisy and obvious problems, possibly missing something that will destroy the ship in a few minutes.

Damage assessment can be performed using the Engineer (damage control) speciality. Electronics (sensors) can be substituted if the ship has integrated internal sensors. This means that vessels with civilian or better sensors are set up to assist a bridge officer in making an assessment.

Normally assessing damage requires an Average (8+) Engineer (damage control) check, but this can vary depending on the circumstances. Sometimes an alarm will indicate a problem in a particular area due to an electrical fault when in fact the problem is elsewhere. Running down the cause might require ignoring the system and using old-fashioned manual methods or creatively reconfiguring readouts to find the false data.

The Effect of a damage assessment can be applied to all damage control (but not repair) related checks on systems included in the assessment. So if, for whatever reason, a Traveller performs a detailed assessment of damage to the hull but ignores the ship's internal systems, the Effect of the assessment applies only to attempts to shore up the hull. At the referee's

discretion this might also include hull-mounted systems or systems running through the hull such as power conduits or ventilation systems.

DAMAGE CONTROL OPERATIONS

All personnel who work aboard starships learn about damage control operations. Those who serve aboard less formally organised vessels such as free traders often gain a rule-of-thumb education in damage control operations along the way; shipping lines and military forces routinely train their personnel.

Any Traveller receiving a level of the Engineer skill can take it in the speciality of Engineer (damage control). This skill does not replace others, such as Vacc Suit, when undertaking damage control operations but does allow the Traveller to tackle any damage control situation at their full skill level. This means that the damage control expert can deal with electronic problems, liquid leakage, physical damage, fires or any other sort of problem even if they do not have skills associated with that kind of work. However, this applies only to tasks related to controlling damage; in other words preventing the situation from becoming any worse. A damage control expert can stop the bulkhead cracking any further and patch it to prevent air loss, but a repair requires the relevant skill – in this case Mechanic.

Due to the training all shipboard personnel receive, anyone who has a skill relating to ship operations – pilots, sensor operators, astrogators, gunners, engineers and stewards – is treated as having skill level 0 when attempting any damage control check.

Travellers may use relevant skills at the normal level, if they possess them. The check to conduct damage control operations is the same as the requirement to carry out a repair, so Engineer (power) could be used to perform damage control on a failing power plant, for example.

Physical components and mechanical machinery, including pipes and simple systems like fans or hatch latching mechanisms require Mechanic skill.

Electronic systems and complex machinery requires the Electronics or Engineer skill.

Fires are fought using Engineer (damage control). Those without this skill are treated as skill level 0 if they have any shipboard skills.

Chemical threats such as toxic gas or chemical spills are normally dealt with using relevant Profession skills, but most crewmembers know how to flush a contaminated compartment and the ship's databases will indicate how to neutralise most hazardous compounds. The Mechanic or Medic skill will apply to making a compartment safe for habitation once more.

DEALING WITH A DAMAGE EFFECT

Sometimes a single check is required to deal with a particular problem. A minor air leak can be controlled by slapping an emergency patch on it. In most cases the patch will hold or it will not; if it does the problem can be properly dealt with later and if not, another attempt can be made. Much the same applies to a jammed hatch – normally it is either forced or cut open, or it is not.

In some cases, multiple checks will be required. Examples include an air leak through multiple holes or a hatch that can be partially opened but requires several attempts before it ceases to be an obstacle. How long each attempt takes can vary considerably. Forcing a jammed hatch might require 1D minutes' work; cutting through a warped bulkhead to release trapped crewmembers might require hours of effort.

Where multiple checks are required, each one reduces the severity of the problem by a level; serious to minor, minor to trivial, and so forth. Normally once a problem is reduced to trivial (or possibly even minor) level it is safe to leave it and deal with something else, but some problems like fires must be fully dealt with or may start to escalate again.

The difficulty of most damage control checks is Average (8+), with DM-2 if the problem is Serious and DM-4 if it is Severe. A Trivial problem gives DM+4 if a roll is necessary at all; the referee may rule that Trivial problems can be fixed by anyone making the effort.

The exception to this system is cascading hull failure. Checks are normally made at Average difficulty, and the per-round hull damage effect is reduced by the Effect of each successful check. Problems of this sort are generally large enough to permit (or require) several people to work at once. The referee should keep a note of the total Effect achieved by damage control parties and deduct this from further damage each round. In any round where hull damage is zero (or less), the damage control attempt has been successful and the ship will not suffer more hull damage from this source.

For example, a subsidised merchant is suffering cascading hull failure at a rate of 4D Hull per round. Her crew achieve a total Effect of 5 on their damage control checks, but the referee rolls 17 on 4D for Hull damage. The ship loses an additional (17-5) = 12 Hull. Next round the crew manage a combined Effect of 3, making their total 8. The referee rolls 7 on 4D for lost Hull; since this is less than the running damage control total of 8 the breach stops widening. The crew can see starlight through the side of their ship, but at least the problem is not getting worse…

BEAKED MONKEY (OR BEAKER)

(Psittarhynchus fructophagii)

Beakers (as they are sometimes called) are common on many worlds, both in the wild and in captivity. In addition, they are found on many starships as pets. Their planet of origin is not known, but the animals can be documented as far back as far as 300 years pre-Imperial, with a range almost as widespread as at the present.

Beaked monkeys typically weigh 2-3 kilograms, and measure 60-75 cm in length, half of which is generally taken up by the tail. Tails are sometimes bobbed on animals kept aboard spacecraft. Beakers are covered by short fur, most commonly brown or grey. Black is rare, and white extremely so (roll 2D for 2-7 brown, 8-10 grey, 11 black and 12 white).

The skeleton and musculature follow typical Terran vertebrate norms. Respiration is accomplished by the usual paired lung arrangement, the circulatory system is closed and the heart four chambered, making the animal very similar to certain small Terran mammals such as the squirrel monkey.

The animal's most notable feature, the beak, is formed of two bony projections from the palate and mandible, covered by a horny substance resembling keratin. The lower third of the oesophagus is extremely heavily muscled and lined with a number of tooth-like grinding structures, which break swallowed food into fragments small enough to be digested readily. In the wild, the beaker is arboreal, and is thought to have originally subsisted on a diet of hard-shelled nuts and seeds, although specimens have been observed eating insects and other small animals. In captivity, beakers thrive on almost any available type of human food.

The animals are quite popular as pets on starships because of their gregarious affection to almost all humans, their intelligence, and their scrupulous cleanliness.

Some individuals are rumored to act as a booster for certain psionic activities, but this last ability has not been proven to the satisfaction of most authorities. A Traveller can detect a beaker with psionic enhancement potential by making a successful PSI check.

The beaker must live in close proximity with the human desiring the boost for at least three months. They must then be within one metre of each other during the time the boost is taking place. If this distance is exceeded, roll 2D. On 6+ the beaker will die. Roll once each combat round while the separation continues.

The human desiring the boost must have a PSI 5+.

If all of these conditions are met, the beaker will raise the Traveller's PSI characteristic temporarily by +1D. Each time the Traveller's PSI is boosted, roll 2D. On 12+, the beaker will die from the effort. If a beaker dies during psi contact with the Traveller, that Traveller will permanently lose -1 from their PSI.

NAME	Beaker
HITS	3
SPEED	7 m
SKILLS	Melee 0, Recon 1, Stealth 2, Survival 1
ATTACKS	Claws (3D)
TRAITS	Heightened Senses, Small (-3)
BEHAVIOUR	Omnivore, Gatherer

BLOODVARK

(Megalorhinos osmichnilatis claudii)

Bloodwarks – also called walking noses and Hoovers, for reasons unknown, are four-limbed mammal-like creatures native to Lantoli. They have been introduced as trade items to worlds throughout the Imperium and are often purchased by the law enforcement agencies of planets of TL5-9.

These strong, hairy animals mass between 50-70 kg when full grown, stand 0.8 metres high at the shoulder and average 2.3 metres long, including the bushy tail. They are omnivores, preferring small, burrowing animals or hive insects, which they dig up with their foreclaws, but can subsist on berries and sweet grasses. This adaptability has let them adjust to and thrive on a number of planets in a variety of climates. Bloodvarks are best known for their uncanny sense of smell. Once put on the trail of a fugitive or animal prey (by letting them smell an article of clothing or recently-handled item, for instance), they will follow it relentlessly and without stopping for days at a time. They can follow trails a week old in good weather, though they will lose a trail after about 4 hours of steady hard rain or snow. They have been known to follow a fresh trail – less than 6 hours old – across streams or along the ground under branches used by an escaping prisoner, picking up traces of scent still hanging in the air. They do not tire easily; they are worked on leashes day and night by handlers swapping in relay. The animals used by local police forces are trained for their tasks, usually by the agency which raises them, a process which takes 3 months.

Bloodvarks have extremely poor eyesight and only fair hearing. Normally gentle, they attack if wounded, cornered or provoked, with powerful swipes of their long claws.

NAME	Bloodvark
HITS	18
SPEED	5 m
SKILLS	Athletics (endurance) 2, Recon 3, Survival 1
ATTACKS	Claws (1D+3)
TRAITS	Heightened Senses (smell only)
BEHAVIOUR	Omnivore, Grazer

Their usefulness as trackers makes them valuable trade items. Trained bloodvarks can fetch as much as Cr800 on the world where they are purchased; untrained animals bring about Cr100 each. Their size and single-mindedness makes them unattractive as pets, but because of their intelligence and fierce loyalty, human handlers frequently become quite attached to their charges. Bloodvarks are oviparous and bisexual. The female digs a den in soft earth under a fallen tree or large boulder, buries two or three 15 cm eggs under loosely packed soil, and lays over them until they hatch. The young dig themselves out and cling to the mother's abdominal hair, where they hang and nurse for about 5 months.

SEA BEAR

(Pseudoarctos ansonii, et al)

Sea bears are native to Thengo, a planet in the Chronor subsector, but seem to have been used in pre-imperial colonisation projects in the Jewell, Lianic and Massina subsectors, and are now found on many planets in those regions.

Adults are typically 1-1.2 metres in length, and weigh from 20 to 25 kg. The skeleton is calciferous, internal, and generally resembles that of a Terran vertebrate, except in the number of limbs and framing of the body cavity. The spinal column runs from the base of the skull dorsally along the body until it reaches the pelvis. In place of ribs, the sea bear's body cavity is supported by short lengths of bone joined in what some have described as geodesic fashion, i.e., as a series of mutually interconnected triangles. This arrangement is very sturdy, and provides excellent protection to the internal organs.

Externally, the most notable feature of the sea bear is its number of limbs. Oddly enough for an animal of its size, the sea bear has four pairs of limbs; one posterior locomotory pair, one anterior pair used in defence and food acquisition, and two medial pairs which can serve either purpose. The head is typical, a bony cranium to protect the brain, upon which are mounted paired sensory organs, (eyes, nose, ears, and a ventrally located mouth. The nose is located well forward, apparently as an adaptation for breathing while partially submerged. Respiration and circulation are handled by the typical arrangement of paired lungs coupled with a closed circulatory system.

NAME	Sea Bear
HITS	12
SPEED	6 m
SKILLS	Melee (natural) 2, Recon 1, Survival 2
ATTACKS	Claws (1D)
TRAITS	Armour (+3), Small (-1)
BEHAVIOUR	Carnivore, Hunter

Sea bears are carnivores, and usually found along seashores and in shallow off-shore areas of large bodies of water. They are solitary hunters, preying upon small aquatic and semi aquatic animal life. The sea bear usually hunts by swimming slowly along the surface, and diving upon its prey from above, taking it by surprise. During the mating season, sea bears will congregate in huge groups, sometimes consisting of hundreds of individuals.

JUMP BOATS

It is widely accepted that no craft smaller than 100 tons displacement can maintain a stable jump field, and by convention any vessel capable of jumping is termed a 'starship'. However, there is a need for small interstellar vessels to fulfil a number of roles. These craft are called 'jump boats' as they are not intended to operate independently for any length of time. Instead, they are carried aboard larger craft or held ready at installations, making a run when necessary. The crew only live aboard during a voyage – the rest of the time they are billeted at their parent installation or aboard a larger vessel hopefully be a bit less claustrophobic than a tiny jump boat.

STARSTREAK FAST COURIER

The Starstreak was developed to meet the needs of corporations and governments requiring fast data transfer regardless of the costs involved. Built at a mature TL15, the Starstreak is only available from a handful of yards scattered across Imperial space. Its primary role is as an information courier, carrying the latest updates in the financial, political and military arenas.

The Starstreak is fast, both in real-space and jumpspace, and is lightly armed and armoured for self-defence. It is often used as a VIP transport, the equivalent of a 'company car', by executives who move around a lot. It is generally able to evade interception or fight its way past piracy, and is therefore a good choice for secure currency transfers or to move secret prototypes. This makes the Starstreak a prime target for criminals, but few have been successfully taken either by hijack or interception.

The bridge/living space arrangement of the Starstreak is unusual. The bridge is located forward, but has an open space at the rear serving as the ship's tiny common area. This leads to the curious phenomenon of 'breakfast on the bridge... in fact, pretty much everything on the bridge is experienced by Starstreak crews, but personnel do not have far to go if an alert is sounded.

Aft of the bridge is the living quarters, consisting of a high-quality stateroom and two standard ones. When the ship is used by an executive, the large stateroom can include an office, or can be luxuriously outfitted to allow the Starstreak to transport a single VIP in style. Aft of this area the ship are the fuel tanks, with an access corridor running through to the drive rooms. These contain compact jump and manoeuvre drives, and a power plant capable of running the ship's systems with a little to spare.

The lower deck comprises a small cargo area and additional fuel tankage. There is sufficient fuel to make a single four-parsec jump or a combination of jumps adding up to 4 parsecs over the course of four weeks. Sometimes a Starstreak will be sent to make a 3-week transit of nearby systems, stopping only to send and receive data. This is wearying for the crew as they are confined in a small area for the whole of this time, but if combined with a policy of rotating crews and granting generous downtime a corporation or government can stay ahead of the general spread of information – albeit at the price of maintaining a flotilla of expensive fast couriers.

CREW

Pilot/Astrogator, Engineer

RUNNING COSTS

Maintenance Costs: Cr7840/month
Purchase Costs: MCr94.085

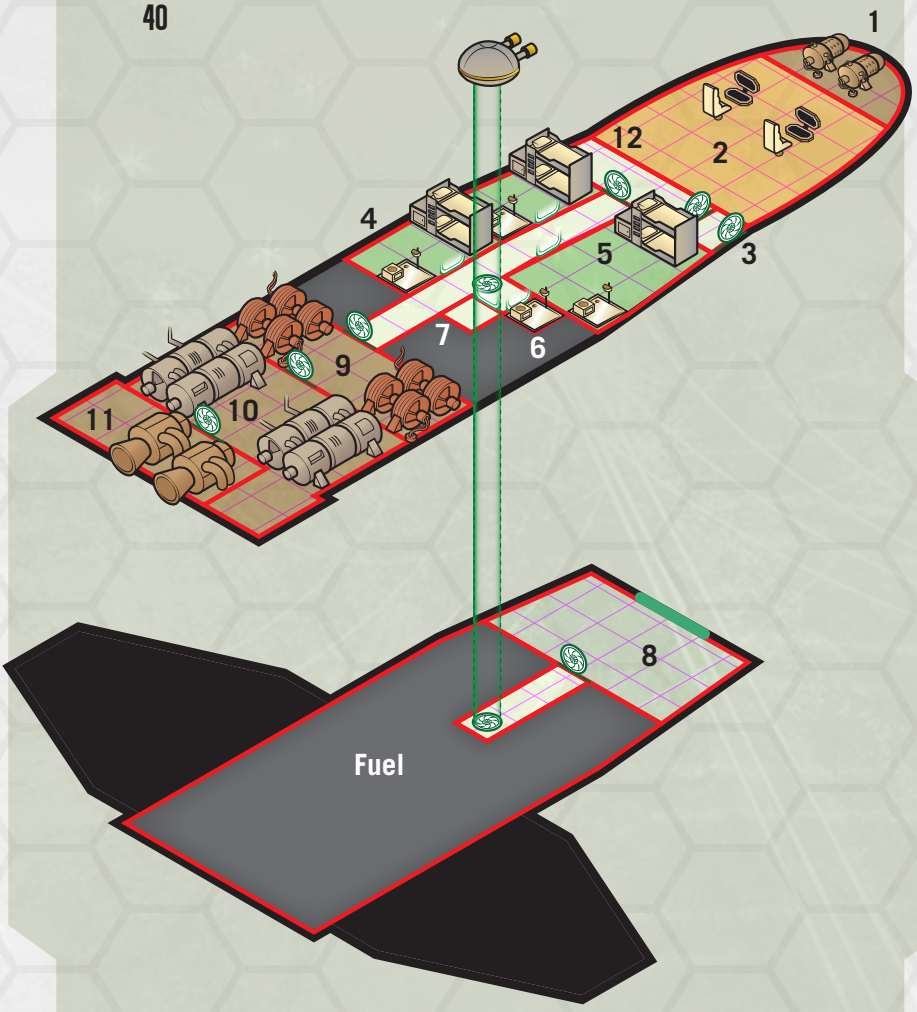
STARSTREAK-CLASS FAST COURIER

TL15		TONS	COST (MCR)
Hull	100 tons, Streamlined	-	6
Armour	Bonded Superdense, Armour: 2	1.6	0.96
M-Drive	Thrust 6 (size reduction, energy efficient x2)	5.4	12
J-Drive	Jump-4 (size reduction x2)	12	28.125
Power Plant	Fusion (TL15), Power 120	6	12
Fuel Tanks	J-4, 4 weeks of operation	41	-
Bridge		10	0.5
Computer	Computer/25bis	-	15
Sensors	Military Grade	2	4.1
Weapons	Double Turret (pulse lasers)	1	3
Software	Library	-	-
	Manoeuvre/0	-	-
	Jump Control/4	-	0.4
	Fire Control/1	-	2
	Anti-Hijack/2	-	8
Staterooms	Standard x2	8	1
	High x1	6	0.8
Common Areas		2	0.2
Cargo		5	-
		Total:	94.085

POWER REQUIREMENTS

Basic Ship Systems	20
Manoeuvre Drive	30
Jump Drive	40
Sensors	2
Weapons	9

HULL POINTS
40



LEGEND

1. Sensors
2. Bridge
3. Air lock
4. Stateroom
5. High Stateroom
6. Fresher
7. Ship's locker
8. Cargo hold
9. Power plant
10. Jump drive
11. Manoeuvre drive
12. Common area

SUPPLY BOAT

Compared to the high-capability Starstreak, the supply boat is as mundane as a vessel can be. Indeed, it does not even merit a class name. Boats of this type are intended to resupply distant outposts, which may be in a nearby star system or so far in the outsystem that it is impractical to make a normal-space transit.

The design is basic yet versatile, with a large fuel tank allowing there-and-back jumps without refuelling. Hull form is a basic cylinder, much like a small craft, reflecting the fact that this is an overgrown ship's boat with a jump drive rather than a starship in its own right. Nevertheless these craft give good, if humble, service to installations and starships across Charted Space.

Internal layout is slightly unusual, with the small bridge leading immediately to the main cargo hold rather than the accommodation area as would be more usual on a ship of this size. Aft of the hold is a fuel tank containing half the vessel's reserves, penetrated by an access corridor leading to the accommodation area. This consists of two standard cabins and a small common space, and aft of this is another corridor running through the second fuel tank to the drive room.

The design philosophy behind this layout may have been intended to place both flight and engineering working areas equidistant from the cabins as an egalitarian measure or ensure that personnel interacted. It has been observed that engineering staff spend more time in their workspaces than flight crew, often eating there alone rather than meeting up for meals. It is possible that crew fatigue is reduced by greater interaction, or perhaps the intent was to make the flight crew walk a bit further to their cabins to make the ship seem a little less claustrophobic. Whatever the intent, this feature is rare outside vessels of this general type.

CREW	RUNNING COSTS
Pilot/Astrogator, Engineer	**Maintenance Costs**: Cr3002/month **Purchase Costs**: MCr36.03

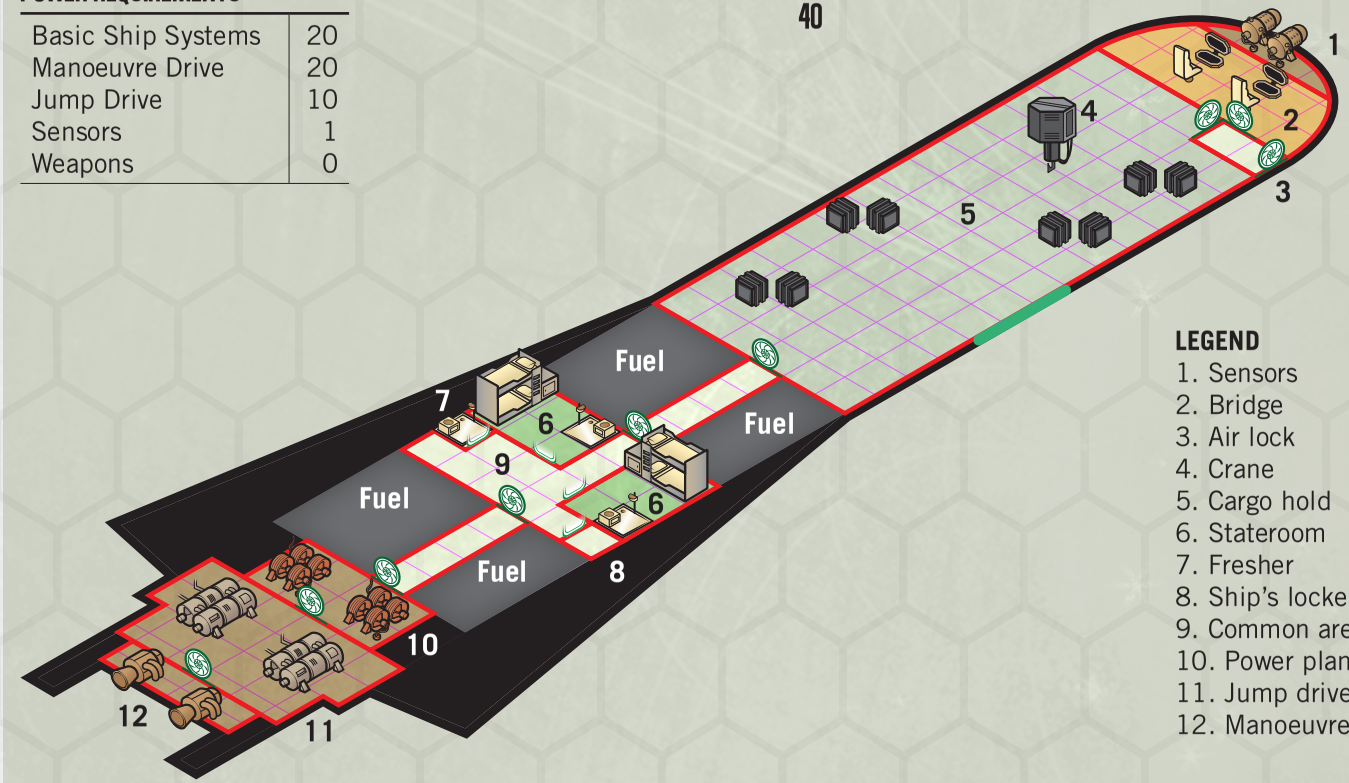
SUPPLY BOAT

TL12		TONS	COST (MCR)
Hull	100 tons, Standard	-	5
M-Drive	Thrust 2	2	4
J-Drive	Jump-1	10	15
Power Plant	Fusion (TL12), Power 60	4	4
Fuel Tanks	2x J-1, 8 weeks of operation	22	-
Bridge	Small Bridge	6	0.5
Computer	Computer/5	-	0.03
Sensors	Civilian Grade	1	3
Systems	Cargo Crane	3	3
Software	Library	-	-
	Manoeuvre/0	-	-
	Jump Control/1	-	0.1
Staterooms	Standard x2	8	1
Common Areas		4	0.4
Cargo		40	-
		Total:	36.03

POWER REQUIREMENTS

Basic Ship Systems	20
Manoeuvre Drive	20
Jump Drive	10
Sensors	1
Weapons	0

HULL POINTS
40



LEGEND

1. Sensors
2. Bridge
3. Air lock
4. Crane
5. Cargo hold
6. Stateroom
7. Fresher
8. Ship's locker
9. Common area
10. Power plant
11. Jump drive
12. Manoeuvre drive

FUEL SUPPLY BOAT

Built on the same hull as the supply boat, the fuel supply boat is a specialist vessel designed to do nothing more than obtain fuel and haul it to a refuelling point or installation. Chains of these craft can be used to laboriously build up a fuel reserve in deep space, permitting a rift to be crossed or deep-space exploration mission launched. Buddy refuelling using the Underway Replenishment System allows a sufficiently large number of these craft to deliver fuel almost anywhere, though the process is slow and wearying on crews.

Layout is similar to the standard supply vessel version; forward of the drive chamber is the main fuel tank containing sufficient for a one-parsec jump and eight weeks of power plant operation. The accommodation area separates the ship's own fuel reserve from the bulk tank and processing equipment. Fuel can be easily transferred, allowing multiple jumps if necessary. However, with just the tiny accommodation space and corridors running fore and aft from the drives to the small bridge, crews find long trips in a ship like this a strain on their nerves.

FUEL SUPPLY BOAT

TL12		TONS	COST (MCR)
Hull	100 tons, Standard	-	5
M-Drive	Thrust 2	2	4
J-Drive	Jump-1	10	15
Power Plant	Fusion (TL12), Power 60	4	4
Fuel Tanks	J-1, 8 weeks of operation	12	-
	50 tons of additional fuel tankage	-	-
Bridge	Small Bridge	6	0.5
Computer	Computer/5	-	0.03
Sensors	Civilian Grade	1	3
Systems	UNREP System	2	1
	Fuel Processor	1	0.05
Software	Library	-	-
	Manoeuvre/0	-	-
	Jump Control/1	-	0.1
Staterooms	Standard x2	8	1
Common Areas		3	0.4
Cargo		1	-
		Total:	34.08

CREW

Pilot/Astrogator, Engineer

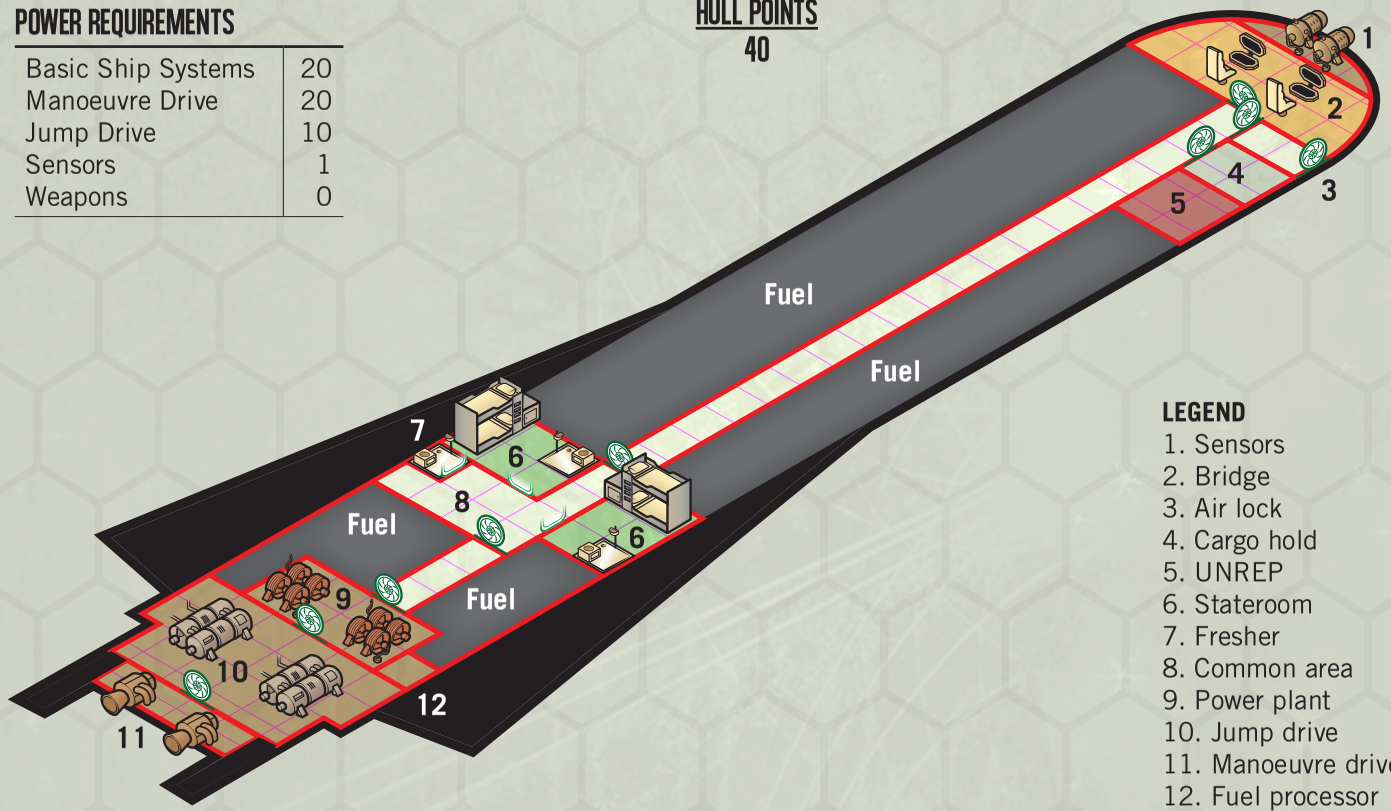
RUNNING COSTS

Maintenance Costs: Cr2840/month
Purchase Costs: MCr34.08

POWER REQUIREMENTS

Basic Ship Systems	20
Manoeuvre Drive	20
Jump Drive	10
Sensors	1
Weapons	0

HULL POINTS
40



LEGEND

1. Sensors
2. Bridge
3. Air lock
4. Cargo hold
5. UNREP
6. Stateroom
7. Fresher
8. Common area
9. Power plant
10. Jump drive
11. Manoeuvre drive
12. Fuel processor

SHEPHERD PICKET BOAT

The Shepherd was developed to provide a distant (in some cases very distant) sensor picket capability, and has a secondary role as a scout vessel. Some operators use the Shepherd to guide flights of fighters or system defence boats, or as a patrol vessel in its own right. In this capacity its jump drive enables it to reach distant parts of the system or a neighbouring one, creating an 'armed presence' to protect commerce or deter lawbreaking for a very modest price. However, the Shepherd is no warship, and is not really a ship at all; it is designed to operate out of an installation or parent vessel rather than as a vessel in its own right.

Although developed as a security vessel, the Shepherd is sometimes used as a route guide on shipping lanes and by exploration vessels. Its jump capability allows it to visit systems off the path of the exploration vessel, collect data and return, or conduct a quick scout of the next system to be visited whilst the parent ship is engaged in detailed exploration.

The Shepherd uses a standard cylindrical hull form, with the rather small flight bridge forward. Immediately aft of this is the operations area, taking the form of a secondary bridge containing sensor equipment and controls for the turret. A fuel tank containing half the ship's reserves, penetrated by an access corridor, separates the control spaces from the living area. The second fuel tank lies between the living area and engineering chamber. As with most vessels of this type it is possible to turn off the artificial gravity and dive or throw an object from one end of the ship to the other. This led to the invention of a game called 'Shepherd darts' using this extremely long corridor. It requires incredible skill and is hazardous to crewmembers who may emerge from a cabin as a projectile goes by. Not surprisingly, the game is officially discouraged but played anyway. 'Playing Shepherd Darts' is a common figure of speech in some areas, referring to an extremely dull posting.

SHEPHERD PICKET BOAT

TL12		TONS	COST (MCR)
Hull	100 tons, Standard	-	5
Armour	Crystalliron, Armour 6	7.5	1.5
M-Drive	Thrust 2	2	4
J-Drive	Jump-1	10	15
Power Plant	Fusion (TL12), Power 75	5	5
Fuel Tanks	2x J-1, 8 weeks of operation	21	-
Bridge	Small Bridge x2	12	1
Computer	Computer/15	-	2
Sensors	Military Grade	2	4.1
Weapons	Dual Turret (pulse laser)	1	2.5
Systems	UNREP System	1	0.5
	Improved Signal Processing	1	4
	Shallow Penetration Suite	10	5
	Extension Net	1	1
Software	Library	-	-
	Manoeuvre/0	-	-
	Jump Control/1	-	0.1
	Electronic Warfare/1	-	15
Staterooms	Standard x4	16	2
Common Areas		8	0.8
Cargo		2.5	-
		Total:	68.5

CREW

Pilot/Astrogator, Engineer, Electronic Warfare Operator, Gunner

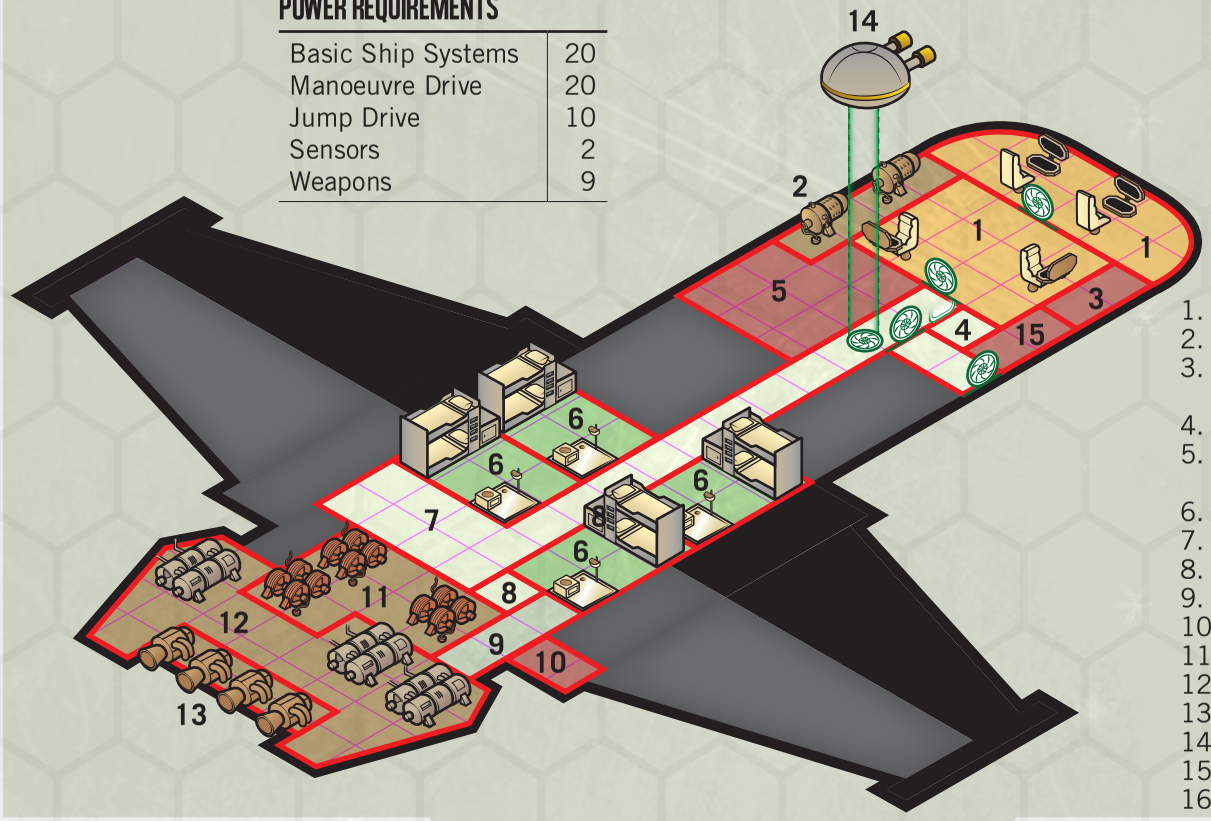
RUNNING COSTS

Maintenance Costs: Cr5709/month
Purchase Costs: MCr68.5

POWER REQUIREMENTS

Basic Ship Systems	20
Manoeuvre Drive	20
Jump Drive	10
Sensors	2
Weapons	9

HULL POINTS
40



1. Bridge
2. Sensors
3. Improved Signal processing
4. Ship's locker
5. Shallow penetration suite
6. Stateroom
7. Common area
8. Fresher
9. Cargo hold
10. UNREP
11. power plant
12. Jump drive
13. Manoeuvre drive
14. Pulse laser turret
15. Extension net
16. air lock

WORLD SECURITY PROFILES

Travellers can visit countless worlds in their lifetime. Along the way, many will have reason to fall foul of the law. World Profiles show referees the Government Type and Law Level of main worlds, giving an idea of the level of control and restrictions in place. On occasion, referees will want more detail on a world's security forces. This article provides advice on interpreting a World Profile to determine the type of security present and offers an optional Security Profile to record that information.

SECURITY FORCES

Security forces can be divided into three broad categories. These may not always be separate agencies under some government types, or even be present at all on low-population worlds.

Law Enforcement: Empowered to represent the civil authority, and typically responsible for public order and safety. Officers normally work to prevent and investigate breaches of the law. Often this will be a police force; some governments may militarise this organisation or draw from the population on a volunteer basis.

Military: Armed forces with the mandate to protect a nation or organisation and its interests from threats. Normally not concerned with the enforcement of laws, they do not usually fill policing roles; however more militaristic governments may use their armed forces for internal security. Smaller

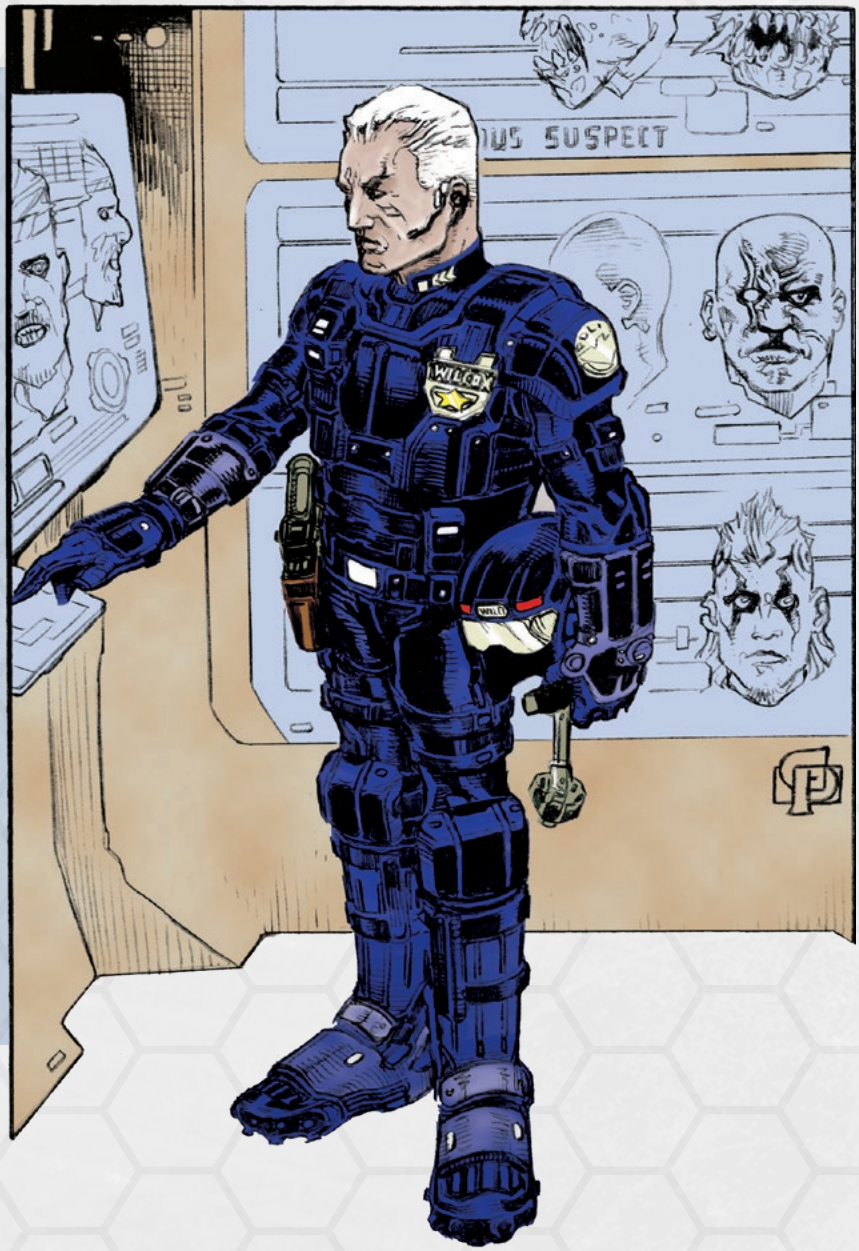
STOP, POLICE!

For every world on which the agents of law enforcement are called police, there is another where this is not the case. When naming a security force, the referee should consider wider factors of the world in question, but particularly the type of government. A corporation may simply call them a security force or know them by a department number. Religious or oligarchic societies could have more colourful names, often tied to divine or regal figures. Military governments and forces will have functional names or extremely flamboyant ones, depending upon their leaders.

The referee should also decide the nickname the population (and the agents themselves) would refer to this force by. The New Garand Police Department will almost certainly be known as the NGPD, but HMRHPK does not roll off the tongue to announce Her Most Revered Highness' Protector Knights when shouted at a fleeing criminal. In this case, 'Halt, Protectors!' would be a more likely choice.

worlds may not have a standing military, relying on an armed populace conscripted in time of conflict.

Intelligence: Covert agencies given the authority to undertake intelligence gathering, espionage, and counter-espionage activities in support of governmental or organisational interests. These can be small agencies



with specific remits, such as domestic counter-intelligence or information security, or be a single all-encompassing organisation. In some governments these can be military in nature, or political in motivation. Worlds with a small population may not carry out any intelligence activities at all.

Motivations

Security forces are organisations with one overall aim; to ensure a given area (from a single facility to the entire Imperium) is safe and controlled. Different governments will emphasise one part of 'safe and controlled' over another. Those with absolute or non-accountable power typically favour control, a stable society, and no threats to their power. More representative and charismatic leaders tend to favour safety, justice, and individual rights; trusting in the support of a voluntarily law-abiding population.

Law and Justice: Forces whose primary motivation is to uphold the law and protect citizens are often modelled on the police forces familiar to most referees. Bound by a code of conduct and the laws they enforce (less those exemptions needed for their role), officers tend to be driven by a wish to keep people safe. Although required to use force in the line of duty, many officers attempt to do so only as a last resort. Concerned with individual rights, populations typically view these forces positively.

Order and Stability: Where a government concerns itself with public order and a smoothly-functioning society, security forces are often less concerned with civil rights or justice. Normally allowed to ignore restrictions placed on the population, officers are instructed to target threats to the government. On more totalitarian worlds, officers can be above the law, and capable of great violence and arbitrary action. They are often met with distrust, even outright fear, by the population.

The reality is that few forces are completely focussed on one motivation. Some governments, particularly corporations, create security forces primarily for order and stability, but provide them with an ethical code of conduct. Even in more open and representative societies there is a need for enforcement of unpopular rules. Individuals can also have different priorities. Even the most hard-line fascist government has some officers with a conscience. The most righteous officer can become quick to reach for a baton after their fifth set of broken ribs.

Resources and Considerations

A key factor in security operations is the resources required. Tight security is expensive, both in terms of money and personnel; compromises must be made, and governments must prioritise security tasks.

Economic Realities: To maintain the personnel and equipment required to police a world costs a significant amount. Money for security must either come from the population and/or industries of the world, or from an outside source. Some smaller governments, particularly corporate or

captive ones, will be financed by a larger, richer source. In these cases, security forces may receive significant funding. Where a world generates its own income, security must compete with other areas for resources – less authoritative leaders are more likely to short-change security than oppressive ones.

Projecting a security presence into orbit is a considerable drain, and something smaller independent governments will struggle to heavily resource. System-wide security is an order of magnitude more costly again, and only the most economically developed worlds can fund that without external support.

Small elite units from any security force may be provided with more sophisticated or expensive equipment, and may use equipment of a higher Tech Level than available on-planet.

Population Resources: Larger populations generate more income, but in turn require larger security forces to effectively police. Planets with very small populations (those with Trade Code Lo) may not be able to justify a large full-time security infrastructure. Worlds with even fewer people may not employ, or see any need for, permanent security officers. Worlds with populations in the billions (Trade Code Hi) may cap the number of officers, and rely on surveillance, or informants and domestic spies.

Higher Security Areas: Worlds that lack the resources or will to provide security throughout their controlled area will almost certainly have areas and people upon which security apparatus is focussed. This can also be the case on even low Law Level worlds, where the government may enforce more stringent measures in some areas. Corporate worlds may permit weapons anywhere outside corporate facilities, for example.

Environment: Some worlds have environments or atmospheres that pose a significant risk. Travellers acting in a way that threatens those risks, such as damaging a pressurised dome on a vacuum world, will face a significantly more robust response to any incident. These forces will also have weapons tailored to the environment.

THE SECURITY PROFILE

Referees may use the following profile to summarise the responsiveness, proactiveness, and approach of the security forces. This profile may be appended to the end of World Profile found in the *Traveller Core Rulebook*, following the Travel Code (if any). A Security Profile consists of:

S642-5B Fo Im Te

The S denotes this is security information, to avoid confusion with other world data.

The four hexadecimal digits denote, in order:

- Planetary presence
- Orbital presence (including the presence of forces out to the 100D point)
- System presence
- Security stance

The B denotes this is the Security Profile for the area around the starport on a balkanised world (omit this for non-balkanised worlds).

This is followed by any Security Codes for the planet.

Security Values

The Presence codes show the likelihood of encountering security forces in the three areas. Where a given Presence code is lower than the Law Level, security officers will typically be encountered less often unless responding to an incident. Presence codes higher than the Law Level show officers will be encountered more routinely in those locations. The Stance code shows how common routine stops and questioning will be. The Law Level of a planet determines the level of active response. Some World Profile values give automatic Security Profile results:

World Profile value	Security Profile
Population: 0	No Security Profile
Government: 0 and/or Law Level: 0	S000-0 (individual responsibility)

Planetary Presence: This is the frequency of security officers or apparatus in the planetary areas controlled by the government. It reflects both the approach to security, and the resources and technology available. Higher values indicate more officers or technological systems, whereas lowers values indicate areas without regular patrols or monitoring. Planetary Presence is generated by rolling 2D-7 and adding the Law Level, modified according to the table below:

Planetary Presence	DM-2	DM-1	DM+1	DM+2
Size	-	9+	2-3	0-1
Government	2, 12	7, 10	1, 5, 11	6, 13-15
Trade Codes	Hi	Lo	Ht, Ri	-

Orbital Presence: This represents how common ships and other security devices are in the orbital areas, including security to the 100 diameter limit. Higher values indicate more ships and defence platforms within the 100 diameter limit, and/or extensive sensors. Lower values may describe

only a few ships, or obsolete sensors. A world with no starport should have Orbital Presence 0 unless the referee decides otherwise. Orbital Presence is obtained by rolling 2D-7 and adding the Law Level, modified according to the Orbital Presence table.

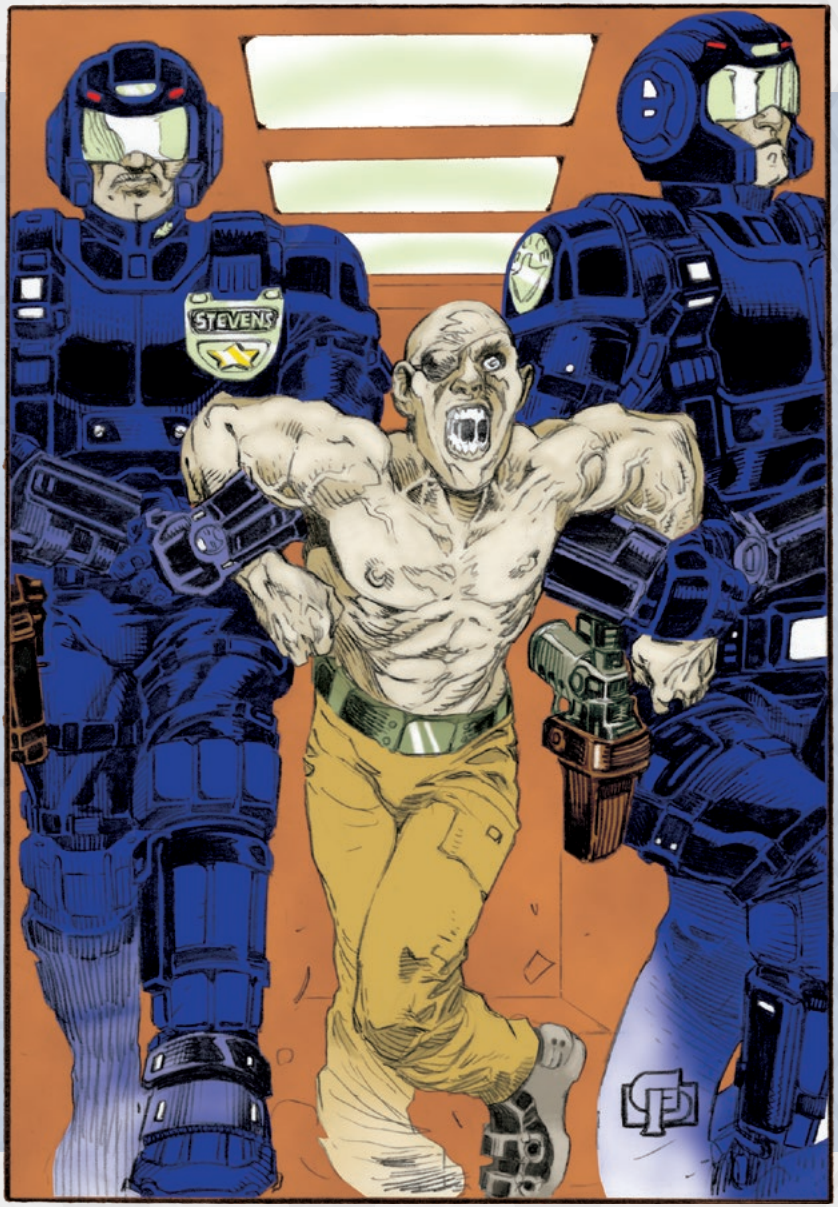
Orbital Presence	DM-2	DM-1	DM+1	DM+2
Starport	E	D	B	A
Size	-	10+	3-4	0-2
Government	2, 7, 12	10	1, 5, 11	6, 13-15
Trade Codes	Lo, Lt	Po	Ag, In, Ht	Ri
Base present	-	-	Navy	-

System Presence: This represents how common security ships and devices are beyond the 100 diameter limit, including security at common refuelling or transit points, and around other bodies in the system. System-wide security is extremely resource-intensive, and the volume of space to monitor and patrol makes it impossible for all but the richest, most high-tech systems. Higher values indicate more ships (particularly SDBs on-station at key areas in the system), and/or extensive deep-space sensor networks. These may be supported by stations in particularly important areas where resources permit. Lower values mean fewer ships, and likely a reliance on patrol ships within the 100 diameter limit to intercept vessels en route to the main world. A world with no starport should have System Presence 0 unless the referee decides otherwise. System Presence is generated by rolling 2D-7 and adding Orbital Presence., modified by the System Presence table.

System Presence	DM-2	DM-1	DM+1	DM+2
Starport	E	C, D	A	-
Government	7	1, 9, 10, 12	-	6
Trade Codes	Lo, Po	Lt, Ni	Ri	-
Gas Giants present	None	-	-	-

Stance: This shows how proactive the security force is in executing its duties. Government attitudes and legal codes influence this. Where Stance exceeds Law Level, officers are very likely to approach and question Travellers routinely. A Stance of less than the Law Level shows a more passive security presence. Secure areas such as military bases bases will have a localised Stance of at least 10. Stance is obtained by rolling 2D-7 and adding the Law Level, modified by the Stance table.

Stance	DM-2	DM-1	DM+1	DM+2
Starport	-	-	-	X
Atmosphere	-	-	1, 10	0, 11, 12
Government	2, 12	10	1, 5, 11	6, 13-15
Trade Codes	Hi	Ht	Lt	-



BALKANISED WORLDS

The *Traveller Core Rulebook* tells us the Law Level of a balkanised planet represents the government closest to the starport. Travellers may visit any number of states on the planet, each with its own Law Level and legal system, and referees are free to generate Law Levels and Security Codes separately based on the different governments should that level of detail be desired.

The referee should decide the government's approach to off-planet security. If a sizeable proportion of the planet's states cooperate to maintain a neutral orbit, the referee should ignore the balkanisation DM for Orbital Presence, to reflect the combined resources. These same decisions should be made for System Presence.

Encounters in orbit or the wider system can be with ships from any government with the appropriate security forces (or a combined force, if it exists).

Security Codes

Security codes describe the type of security forces, and their most commonly-used methods. Where a world meets all the requirements listed for one or more security codes, it gains those codes. Some codes do not apply in all cases, only when equalling or exceeding the value on the Security Codes table on 2D, or at the referee's discretion based on the world's society.

Corrupt: Graft, bribery, and self-interest are extremely common in the ranks of the security officers. Travellers should expect fair treatment only if it benefits the officers – or if they can pay for it.
Covert: Whilst most worlds have small covert security forces, this world's security is predominantly hidden and consists of extensive surveillance, and in some societies a network of citizen informants.
Factionalised: Security forces are numerous and often hold very specific mandates. This can lead to inefficiency and bureaucratic infighting that can inconvenience (or be exploited by) the Travellers.
Focussed: The strongest security and enforcement is found around key locations and people, with the rest of the world or system having much less. High Presence values with the Focussed code can mean extensive passive monitoring, with significant resources available when needed.
Impersonal: The security forces are less concerned with individual rights and justice, and more with the laws themselves and public order. A Difficult (10+) Advocate check can reverse the negative DM on sentencing rolls on these worlds, as Travellers use the letter of the law to their favour.
Militarised: All key security forces are military in nature. Typically more heavily armed and armoured than civilian security forces, they will normally be granted significant latitude by the government.

Pervasive: Security apparatus is wide-ranging and common. This can vary from constant data-mining of computer networks, to a panopticon of cameras and gunshot sensors, to guards on every door, depending on the Tech Level. Pervasive security may be limited to the planet alone, or reach beyond it.
Technological: Main security functions are automated, or heavily reliant on hardware and software. Fewer officers will be present, but cameras, drones, and other devices will be very common.
Volunteer: Security forces are made up of volunteers, perhaps led by one or two paid full-time officer(s). They will typically be less well-trained but are dedicated to their community.

Security Codes

Classification	Code	Gov	Pop	TL
Corrupt	Cr	1, 3, 5-9, 11, 13-15	4+	-
Covert	Co	1, 3, 6, 8, 9, 11, 13-15	6+	-
Factionalised	Fa	4, 5, 6, 9, 11-15	5+	-
Focussed	Fo	1, 6, 9-15	8+	-
Impersonal	Ip	1, 3, 6, 9*, 13-15	5+	-
Militarised	Mi	3, 5-7, 11, 15	4+	-
Pervasive	Pe	1, 5-6, 8-9, 11, 13-15	1-9	-
Technological	Te	-	-	12+
Volunteer	Vo	2-4, 7, 10, 12	1-2	-

Classification	Trade Codes	Planetary Presence	2D Roll
Corrupt	Po or Ri	1-5	12+
Covert	-	1-5	10+
Factionalised	-	5+	10+
Focussed	-	1-6	-
Impersonal	-	-	10+ (*Gov 9: 5+)
Militarised	-	-	10+
Pervasive	-	7+	-
Technological	-		-
Volunteer	-		5+

USING THE SECURITY PROFILE

The Security Profile may be used to guide the likelihood of Travellers encountering routine security forces in different parts of the world and system. When Travellers are involved in an incident the referee should use the rules in the *Traveller Core Rulebook* to resolve the encounter. At the referee's discretion Impersonal (Im) worlds give a further DM-2 to response and sentencing rolls, and Corrupt (Cr) worlds allow DM+1 to +4 to sentencing with an appropriate bribe.

Imperial Bases, Starports, and Travel Codes

Security Profiles and security force considerations change for areas controlled directly by the Imperium. Imperial Navy bases are likely to be highly secure. Scout bases, whilst less so, still have restricted sections.

Starports typically follow Imperial procedures and have extraterritoriality zones that fall under Imperial law (outside this area local laws apply). These areas are ripe with potential for the referee to show the difference in tone and character between Imperial and local security forces.

Typical representative security profiles for Imperial facilities can be found in the Imperial Security table.

Imperial Security

Facility Type	Security Profile
Imperial Starport	S400-4 Fo
Navy Base	S880-A Pe
Scout Base	S440-4 Fo
Research Base	Project-dependent

Travel Codes add unique considerations. Amber Zones are likely to be of higher security interest to the Imperium, resulting in an increased likelihood of encounter. They may also be in place due to local trouble; referees should add appropriate modifiers to encounter rolls to reflect this. Red Zones are interdicted by the Imperium. Interacting with one of these should be an adventure in itself.

The concept of extraterritoriality, often shortened in the Imperium to extrality, extends beyond the starport in the case of properly documented diplomats. They are exempt from most local laws and cannot be prosecuted by local courts. They can, however, be expelled for breaches of law and order.

Encounter Likelihood: Roll 2D against the appropriate Presence code, and if the roll is equal to or less, security forces are present in the area. The referee should apply DM-4 to checks against Presence or Stance if the

Travellers are near important sites or people (with an additional DM-2 if security is Focussed). For routine encounters, the referee should decide what kind of security forces are encountered.

Approach likelihood: Roll 2D and if the roll is equal to or less than the Stance code the Travellers are approached by the security forces for routine enquiries. Travellers acting suspiciously, or those on isolationist or xenophobic worlds, should receive DM-2 or more at the referee's discretion. If an active incident occurs, the referee should use the Travellers & The Law rules in the *Traveller Core Rulebook*.

Nature of approach: The referee should then determine the nature of the encounter based on the Security Codes, government and security forces type, and the actions and attitude of the Travellers. An approach does not automatically result in an attempted apprehension if the Travellers are reasonable. Some examples are:

- On a world where there is Pervasive (Pe) Technological (Te) security the Travellers are observed by cameras; something they are unaware of unless they pass an Investigate or Recon check at a difficulty set by the referee to reflect the Tech Level of the devices.
- An encounter with one of the forces of a Factionalised (Fa) Impersonal (Ip) police force may result in the Travellers observing officers detaining locals for an offence or action the Travellers themselves are also guilty of – but the officers are from an agency whose remit does not include policing off-worlders, so do not concern themselves with the Travellers.

- Travellers aboard ship transiting to a world with an Amber Travel Code for its actively isolationist population, may be challenged by local Volunteer (Vo) deputised armed traders and warned to turn about if they do not have the correct permits.
- Corrupt (Cr) officers in a system with a Focussed (Fo) Militarised (Mi) stance may maintain Navy SDBs on-station at a gas-giant. These Navy officers may order Travellers refuelling there to prepare for boarding and attempt to extort bribes from them for fictitious offences – and threaten arrest or worse if they refuse.
- Travellers on a low-tech world with Covert (Co) Impersonal (Im) security forces may find their every move reported back to officers by citizen informants hoping for payment.

AN EXAMPLE

Albe (0601 Sindal, Trojan Reach) has a World Profile of A540A98. Its population numbers in the tens of billions, is governed by an Impersonal Bureaucracy, and has laws that ban almost all weapons.

- A roll of 9-7+8 (Law Level) for Planetary Presence gives a result of 10(A) (no applicable modifiers).
- Rolling a 6-7+8 (Law Level) for Orbital Presence is modified by +4 for Starport and Trade codes, to 11.
- A 6-7+11 (Orbital Presence) for System Presence is modified by +0 for combined modifiers, to 10.
- Rolling a 5-7+8 (Law Level) for Stance is modified by -3 for Trade codes to 3.

This gives a Security Profile of SABA-3 Ip Te.

Albe has a large on-world security setup, and an even more extensive off-world one. High-tech ships, sensors, and weapons are encountered across the system. Presence beyond the 100 diameter limit is almost as strong as in orbit, indicating the desire to monitor and secure movement within and transit through the system. The security forces are reactive in nature, and their priority is order, stability, and resources important to the world's recovery and colonisation efforts.

THE LOST VILLAGE

***Location**: Gadden (D893200-8) Harlequin subsector, Solomani Rim*

After rescuing a dying stranger from the snow, the Travellers try to uncover the fate of an entire village.

GADDEN (D893200-8)

Gadden has an official population of just a few hundred, though there are many more living in unofficial backwater settlements. The terrain is mostly barren; the most habitable region is a tundra covering the planet's entire mid-latitudes. The starport, Lucky Downs, is barely more than an open field with a small maintenance shack and fuel pumping station. It is truly deserving of its Class D classification.

THE SITUATION

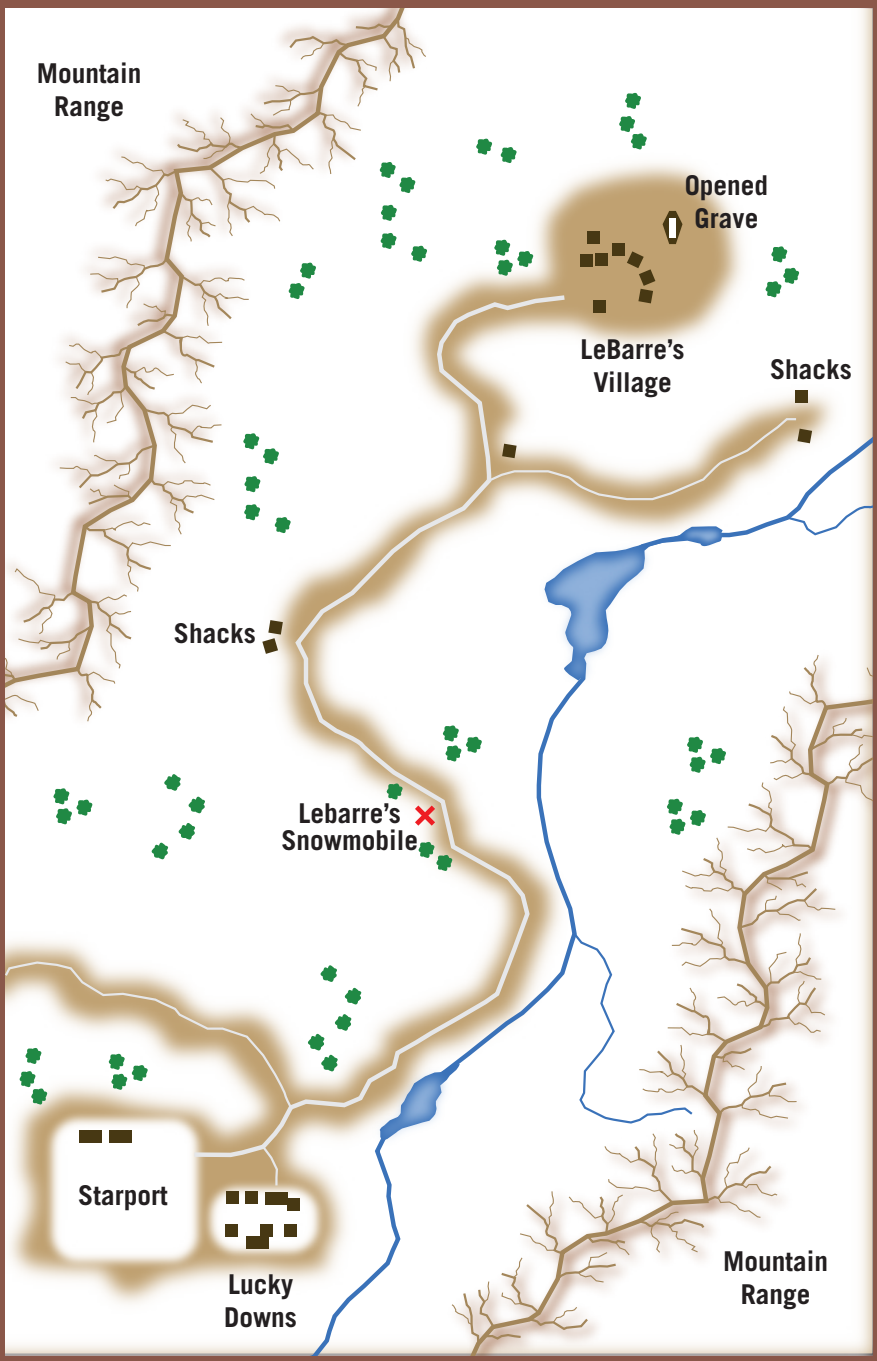
While in jump, the Travellers notice their air/raft has developed engine problems, and communications with the starport indicate that replacement parts are available in Lucky Downs, the main town. While awaiting completion of the maintenance, the Travellers take a look around. The local atmosphere consists of everything Travellers expect of a planet well off the beaten path: dirt streets, more bars than homes, and the typical houses of ill repute. With a planetary population numbering slightly above 300, this place would soon become very dull.

In late afternoon, one of the Travellers notices a figure making its way across the snow and clearly struggling. Helping is at least something to do, so the Travellers go out and retrieve the man. He turns out to be a local inhabitant, almost frozen and near death. He manages to get out the words, 'They're... all... gone. Everyone's... gone,' before expiring.

Taking the body to the local doctor, the Travellers learn he was Laster LeBarre, a hunter from a nearby village. He came into town almost a fortnight ago to sell his catch of furs, then left to head home. His village is a two-day trip by snowmobile away. It has been ten days since he was last in town.

It is obvious to the local peace officer, Constable Monteray, that something bad has happened at Laster's home village. He cannot investigate himself as every hunter or trapper within two hundred kilometres is in town or will be soon, selling their catch to be shipped offworld. Monteray is the only law in town, and right now the entire planetary economy is being bartered in the marketplace.

Lucky downs map



Monteray wants to deputise the Travellers to go to LeBarre's village and check out what happened. Since their air/raft is still being repaired, Monteray will loan the Travellers his 'government' snowmobiles. There are two, each capable of carrying four people plus equipment. Pay is pretty minimal - Cr125 per week. Not much on interstellar standards but, if pressed, Monteray could manage to have the cost of the air/raft repairs thrown in. At least it will be something to do while the Travellers wait for their air/raft to be fixed.

If the Travellers accept they are sworn in as deputies – they are even given badges to show their status – and provided with a map showing the route to the town. Monteray also gives the Travellers the names of the town elders with whom they must speak.

Midway through the first day's ride, the Travellers discover an abandoned snowmobile. If they stop to inspect it, the Travellers will discover title documents identifying it as LeBarre's. They will also find a large oil leak in one of the high-pressure lines. LeBarre walked or ran almost 100 kilometres in sub-zero temperatures with no food to get back to Lucky Downs.

After the second day's travel, the Travellers will arrive at the village, which is little more than a cluster of corrugated metal shacks surrounding a central fire pit, as dusk falls. The silence is eerie; something is very wrong here.

As the Travellers search the town, they find no one home: no men, women, or children, although the village probably held twenty or more people. Lights and heating units are left on, and some shacks have food still cooking above open fires and primitive stoves. Little remains of that now, and it is clear nobody tried to prevent it burning. In some shacks, knitting needles are left in garments. The signs of a hurried departure are everywhere.

On the other side of the village, a grave lies opened. It is empty, and has a light layer of snow inside.

REFEREE'S INFORMATION

At this point, the Travellers have two options: they can stay the night in this spooky place, or ride two more days back to Lucky Downs. If they do the latter, the constable will listen to their report gravely, and inform them that local citizens never open graves once the body is placed inside. It must have been the work of off-worlders. He will ask them to conduct a full investigation, for as long as it takes. If they refuse, he will have to arrest them on suspicion of some involvement with the disappearances. The Travellers will be held until an investigation can be conducted.

If the Travellers investigate, they will be able to uncover more details. They may never piece together exactly what happened, but the referee should allow them to find enough clues to take an educated guess.

THE FATE OF THE LOST VILLAGE

Four years ago, Lergei Stallenze arrived on Gadden hoping to make his fortune as a hunter. After a discouraging season, he and his partner, Toolian DeGuere, found the remains of a burial mound. Inside they found a small fortune in gold and jewels, placed by long-forgotten priests. Because of his superstitions, Toolian refused to allow Lergei to rob the mound of its riches. Because of their friendship, Lergei agreed.

Three months ago, Toolian died in an avalanche. His body was recovered and buried near his home village. Lergei remembered the treasure, and planned to make his fortune. From the starport, he contacted a ship which was to pick him up on the plain between the village and Lucky Downs, and then return him to the village.

Unfortunately, the local villagers' superstitions required burying all a man's possessions with him, so the map to the treasure was buried with Toolian's body. Lergei dug open the grave late one night and recovered the map, but was seen by an early-rising member of the village.

The villagers were outraged. Someone lost their temper and tried to beat Lergei for his sacrilege, but Lergei had a gun. A brave woman jumped him, trying to prevent another shooting, and died for it. Her friends rushed to help, or fled, or grabbed weapons, and Lergei kept firing. He knew he would be put on trial for murder if he did not escape, and in his panic he could not tell who was a threat and who was not.

One death led to another, and he eventually killed everyone who did not flee. Those who did escaped into the wilderness and eventually died. Lergei tied the bodies of those he killed together and sank them in the nearby lake, then went off to find the treasure.

With the map leading the way, Lergei was able to recover the treasure and meet the starship which spirited him to safety. Laster LeBarre was away at the time, making an early trip to the starport to sell his catch. But for that decision he, too, might have disappeared at the bottom of an icy lake.

If the Travellers conduct a comprehensive search of the half-frozen lake they will eventually find the bodies of those who fought Lergei. Out on the surrounding plains the frozen bodies of men, women and children may be found, huddled into inadequate shelter – in many cases without even outdoor clothing. In the nearby foothills is a pillaged burial mound, though it wold be hard to find.

Even if the Travellers manage to figure out what happened here, they will not find Lergei. They might someday encounter him, however, and realise he has some connection to the lost village.

AT-4
ROUGH TERRAIN SNOWMOBILE

The AT-4 snowmobile is designed for operations in rougher terrain than standard arctic terrain transport. Its blocky central body runs on four separate track units, each of which has an inner and outer track. Front and back tracks are independently steerable and can climb over obstacles up to 1 metre in height. The AT-4 can run on three track units, enabling it to continue moving despite total traction loss on one track unit – or crippling damage to it.

Each track unit has a deployable frontal shield which acts as a snowplough and obstacle deflector. Running with the shield in place slows the vehicle to Very Slow but it protects the track units from most hazards. To climb over an obstacle the shield has to be raised; forgetting to do so can result in it becoming jammed against the obstruction rather than climbing over it.

The main body of the vehicle sits high above the track units, reached by ladders at each side. At the rear of the vehicle is an external stowage area for equipment, which is boxed in but not insulated in the same way as the cab. It is reached via a retractable step/lift, enabling bulky or heavy items to be loaded and unloaded with relative ease.

The cab itself has room for four people and some small items of gear. It is arranged with a driving seat at the front right and a bench seat at the rear. The right-hand door leads into the rear part of the compartment; the left leads into a small space where a passenger seat might be on another vehicle. In theory this permits the driver some freedom of movement when donning cold weather clothing, though in practice the space is normally jammed with miscellaneous tools and equipment. Clambering over these obstructions in a parka can be hazardous.

A light internal partition separates the two front seats from the rear ones, preventing at least some of the heat inside the vehicle from escaping when a door is opened. There is a cooker/heater unit at the very rear, along with some stowage space. The seat can be used as a passable bed by one person.

The AT-4 is not a cheap vehicle when new, but it is rugged and long-lasting. It is common to find examples that have been passed down from one user to another, becoming ever more decrepit in the process. Known faults among older AT-4 include a tendency for connections to the central track lubrication reservoir to fail, dumping the contents and quickly resulting in seizure of one or more sets of tracks.

AT-4 ROUGH TERRAIN SNOWMOBILE

Armour	
Front	2
Sides	2
Rear	2

Traits
ATV

TL	8
Skill	Drive (track)
Agility	-2
Speed (cruise)	Slow (Very Slow)
Range (cruise)	600 (900)
Crew	1

Passengers	3
Cargo	2.5 tons
Hull	60
Shipping	10 tons
Cost	Cr153 000

Equipment

Autopilot (skill level)	-	• Control Systems (basic), • Communications System (improved), • Mini-Galley, • Navigation System (basic)
Communications (range)	500 km	
Navigation (Navigation DM)	+1	
Sensors (Electronics (sensors) DM)	-	
Camouflage (Recon DM)	-	
Stealth (Electronics (sensors) DM)	-	

FASTEN YOUR SEAT BELT

Landing is the most stressful part of flying a spacecraft. Despite this, most would vastly prefer to handle landing manually than trust a computer. For all the statistics about safety and acknowledged contribution of pilot-assist systems, there is no reassurance like a person with their hands on the controls… assuming, of course, the pilot is not trying to show off.

LANDING DIFFICULTY

The base difficulty of a Pilot check to land a starship or spacecraft on a flat surface is Average (8+), assuming a cautious approach and good landing conditions. Difficulty can be decreased to Routine (6+) by taking longer to set up the approach and coming in very slowly, or by taking a 'just get it on the pad' approach. This means banging the ship down hard – not hard enough to damage it but in a manner that looks heavy-handed and will upset passengers. There are occasions where the pilot may elect for an even worse landing – usually when something is dreadfully wrong. If the pilot chooses to make what amounts to little more than a crash-landing without good cause there may be repercussions, but sometimes deliberately slamming the ship down hard is the only way to get it on the ground fast enough. If so, the base difficulty becomes Easy (4+)

The converse of this also applies. Trying to make an extremely smooth landing increases the difficulty to Difficult (10+), whilst attempting a perfect touchdown without increasing the time required to set everything up just right increases difficulty to Very Difficult (12+).

The chosen level of difficulty indicates the level of smoothness the pilot is aiming for. The Effect of the check determines how close they come to achieving it. An excellent check cannot make a low-difficulty landing much better than what the pilot was trying for, but a bad check can be very unfortunate. Thus only the best pilots – or those trying to show off – will cut their landings very fine. Lesser mortals tend to shoot for 'good enough' and limit the possibility of disaster. Note that Heavy landing resulting from a failed attempt at a Standard or Smooth landing will look worse and be rougher than a deliberate Heavy landing performed successfully.

LANDINGS

Landing Difficulty	Characteristics
Easy (4+)	**Emergency crash-landing:** Will cause minor damage (1D) to the ship and personnel (1D). No pilot would deliberately land like this unless there was an overwhelmingly important reason.
Routine (6+)	**Heavy:** A hurried, heavy-handed and clumsy landing which will antagonise passengers and embarrass the crew but cause no real harm.
Average (8+)	**Standard:** A typical not-very-good-but-safe landing, probably a little bumpy for passengers but good enough for most pilots.
Difficult (10+)	**Smooth:** A near-perfect touchdown that will impress other experts and generate a reputation as a good pilot. High-end liners and yachts often expect this level of competence as standard.
Very Difficult (12+)	**Perfect:** Elegant and smooth as silk, yet unhurried and apparently effortless…

For example, a young and eager shuttle pilot who wants to impress his line commodore decides to attempt a Smooth landing with a difficulty of Difficult (10+). He has to stay in his assigned landing slot, so cannot take a long time about it even if he wanted to – and he does not, because slow and careful will not make the same impression as brisk and smooth. Unfortunately he ends up with Effect -4 on his Pilot check. This downgrades his landing from Smooth to Heavy, and is a worse example of a heavy landing than he would have performed if he had just banged the shuttle onto the pad any old how. The line commodore is not impressed at all…

DOCKING AND ORBITAL PORT LANDINGS

In many ways, landing at an orbital starport or docking with another vessel is the easiest landing-related task. However, there are still important considerations. No well-regulated port ever allows a ship to make a direct approach, other than at low speed in the final moments before touchdown.

	Effect
+6 or more	**Much better than expected:** Treat the landing as one class better than the target level.
+4 to +5	**Better than expected:** The landing is as good as the pilot could have made it, given their expectations.
+1 to +3	**Good enough:** The pilot has achieved what they intended.
0	**Not Quite Good Enough:** The pilot falls a little short of what was aimed for, whether taking too long or landing too hard. The landing is untidy and features a couple of moments that might worry an experienced onlooker.
-1 to -3	**Rough:** The landing is one level lower than what the pilot was aiming for, and looks worse. Sloppy and alarmingly poor flying will attract adverse comment even from those who do not know how to do better.
-4 to -5	**Bad:** The landing is two levels worse than what the pilot was trying for, and looks like little short of a crash. Passengers will remember this trip for a long time, and not in a good way…
-6	**Disastrous:** The landing is a particularly rough example of three levels worse than the pilot was aiming for. Even if the ship is not damaged and there are no serious injuries, questions will be asked. If the local conditions are bad (for example, trying to land in a storm) the ship will almost certainly crash.

Whilst this would be more convenient, there is always a danger of engine or control malfunctions, or pilot error, causing the craft to smash into the port.

Vessels making a direct approach will be warned off and then fired upon by most stations. The incident could be a ramming attack by terrorists or other enemies, or just an unfortunate out of control vessel. Either way, the port needs to break up the incoming craft to mitigate damage. This policy also serves to deter hotshots who think they can ignore the port traffic controllers' instructions. A Class A orbital port with tens of thousands of people aboard simply cannot afford to take risks with a large piece of metal directly inbound.

Assuming the pilot makes a sensible approach and turns towards the port at the correct time – and at reasonable speed – then docking or landing is not a difficult business. Some ports, especially those with individual docking bays, run artificial gravity at a minimal level to avoid a hazard at the local field/free space interface, a technical term for the point where a vessel becomes subject to the port's internal gravity field.

This takes place over a short distance, and with larger ships can create a gravitational gradient along the length of the ship, creating a potentially violent pitching movement that can send a vessel nose-first into the floor of the dock.

Where individual bays are available it is standard practice to reduce local gravity to almost nothing, allowing a pilot to position their ship on the pad without interference. Local gravity is then increased steadily to allow the ship to settle and crew to disembark in comfort. This is not possible in large communal docking bays, so more commonly the bay is maintained at a low gravity level – around 0.4gs – as a compromise between safety and comfort.

Crossing the interface is part of the landing procedure, and does not pose an undue hazard for a pilot expecting it. However, if the internal gravity field of the station is not set at the expected level there may be problems. Ports inform incoming ships of their standard setting and procedure as part of the standard data transfer upon contacting the port authority, but if this information is incorrect (or the gravity generators malfunction) a vessel will experience a hazard as the pilot attempts to correct for an increase in gravity that does not happen, or experiences a sudden increase when one is not expected. Dealing with this requires an Average (8+) Pilot check, with DM-3 per g of internal gravity.

The latter only applies where there is an unusually high level of artificial gravity in the docking bay, which would require a serious malfunction or hostile action. Cranking the artificial gravity right up, or setting it to fluctuate randomly, is a useful defensive tactic although it will only slow down an assault rather than inflicting crippling damage on incoming craft. Once across the interface, landing is as normal at the chosen difficulty level unless gravity is fluctuating, in which case the DM-3 per g still applies.

ROCKBALL LANDINGS

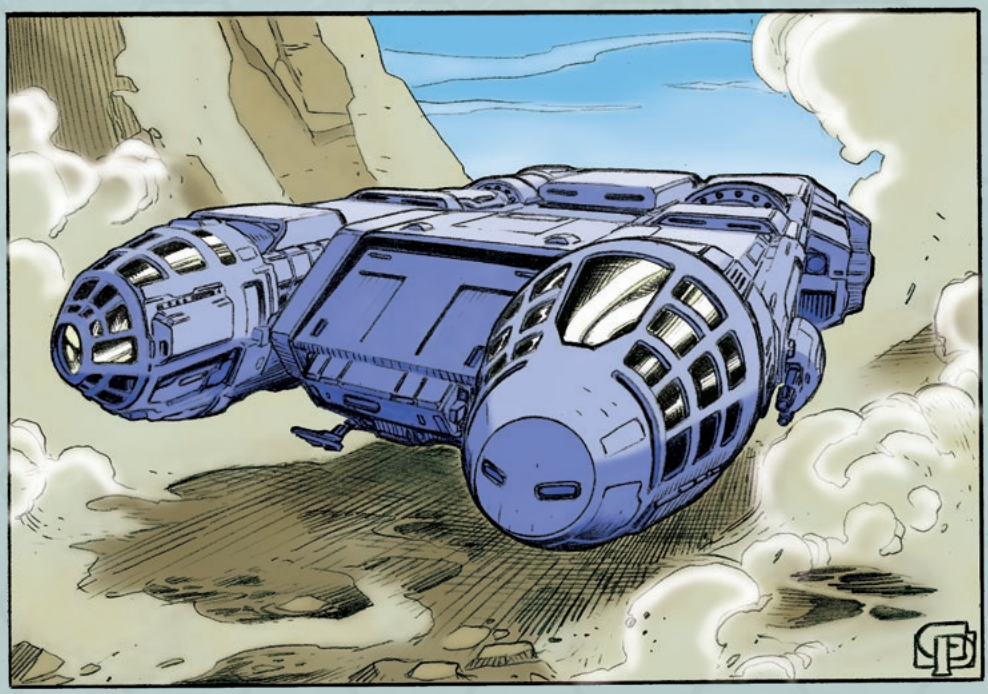
Planetary landings vary in complexity depending on the local conditions. On a very small and low-gravity body it is possible to treat the landing area much like an orbital installation, flying straight in without establishing an orbit. This is unwise when landing on larger bodies, however. Normal practice is to make at least a partial orbit – though not necessarily at a velocity that would produce a stable orbit – before beginning a steady descent.

This orbit-descend-land pattern is important where there is considerable traffic; less so on a distant rockball that gets three ships a year through its port. The use of stages allows sensor data to be collected or communication with groundside installations to be established, and demonstrates the incoming ship is capable of operating in a responsible fashion. A lot of time can be saved by just streaking in at full thrust, and at low-traffic

ports this may be the norm. It will alarm and annoy other vessels and traffic controllers in busier systems, however.

Landing on an airless, low-gravity world is about as easy as any landing can be, though there are still hazards. Chief among these is a tendency to bounce or skid. A craft touching down with any forward or sideways velocity will slide some distance and might even rebound slightly, losing contact with the landing pad. This is purely due to lack of significant friction between the pad and landing gear resulting from low gravity. The ideal remedy is a perfect touchdown, in which the vessel settles with zero velocity in any direction except downwards, and very little of that. A perfect touchdown also requires perfectly balanced and lightly applied thrust such that the vessel is gently pushed down onto the pad and does not scrape sideways after landing.

If the pilot is still struggling to balance thrust upon landing, the craft may skitter across the pad and require additional corrections. Vessels have gone out of control and rammed installations or other craft in the hands of a heavy-handed pilot who over-corrected horizontal drift on the pad. The usual way to avoid this is to put the ship down quite hard, using thrust to push it into the pad and make the landing feet get a good grip. This equates to a Heavy landing, and is considered the province of lesser pilots. Those who prefer to settle gently without the passengers



even realising they have landed make the check at a higher difficulty level but run the risk of something going wrong.

A successful Pilot check indicates the craft is safely down and the landing was as good as could be expected. A heavy-handed 'lawn dart' landing (as some pilots call the more solid approach) will always be bumpy and looks clumsy – though less clumsy than bouncing twenty metres across the pad, overcorrecting the movement and shooting off in a different direction.

LANDING IN ATMOSPHERE

Landing in atmosphere is subject to all the same considerations as a rockball landing, with the additional variable of weather. It is rarely feasible to streak steeply down from orbit – starports located close to cities do not permit this, even if the atmosphere is thin enough to permit such a steep approach. More commonly, a craft will descend from orbit in a curve or on a dogleg course, turning onto a direct approach only as it nears port.

If weather is good and there are no unusual considerations, the pilot chooses the difficulty level for his attempted quality of landing and proceeds as normal. However, weather is not always good, and on some worlds conditions can make a smooth landing a near-impossibility. That does not mean the skipper will not demand one, of course.

The following modifiers are applied to attempts to land in atmosphere or on larger worlds:

Atmospheric Landings

Factor	DM
World Size 8-	No DM
World Size 9	-1
World Size 10	-2
High Gravity World (such as a Super-Earth)	-3 or more
Minor Weather Conditions	-1
Serious Weather Conditions	-2
Violent Weather Conditions	-3
Extreme Weather Conditions	-4
Standard Atmosphere	-1
Dense Atmosphere	-2
Very Dense Atmosphere	-3
Partially Streamlined Ship (if Atmosphere 4+)	-2
Unstreamlined Ship (if Atmosphere 2+)	-4

Minor Weather Conditions refers to mild crosswinds, light rain and similar conditions. On most worlds this is easy for the pilot to correct for, but might be a real problem on a dense atmosphere planet.

Serious Weather Conditions refers to strong and gusty winds, heavy rain or a relatively light sand or dust storm.

Violent Weather Conditions refers to storm-force or very gusty winds and storm or gale conditions.

Extreme Weather Conditions refers to hurricane-force winds and similarly bad conditions.

Results are always subject to referee interpretation. A pilot who tries for a low-difficulty landing and fails the check should suffer less serious consequences than one who was hoping for perfection but falls far short, due to greater margins for error.

For example, the pilot of a subsidised merchant wants to land in the middle of a storm on a dense atmosphere world. With a total DM-5 for the conditions, the pilot decides to play safe and shoot for a Heavy landing. This is a Routine (6+) Pilot check with DM-5 for the conditions and DM+2 for the Pilot's skill. The dice come up an 8... -5 and +2 gives a total of 5 for Effect -1. The pilot attempted a Heavy landing and fell short of the mark a little. The touchdown feels like an emergency crash-landing but the ship is down and basically safe. Had the pilot tried for a perfect landing it would have been Very Difficult (12+) with the same DMs, and the final outcome would be Effect -7. Three categories worse than Perfect is Heavy, but the referee should take into account that this pilot was trying for the near-impossible when something went badly awry. Effect -1 on an attempt to play it safe should hurt a lot less than Effect -7 on an unwise attempt at perfection.

THE VIRUSHI

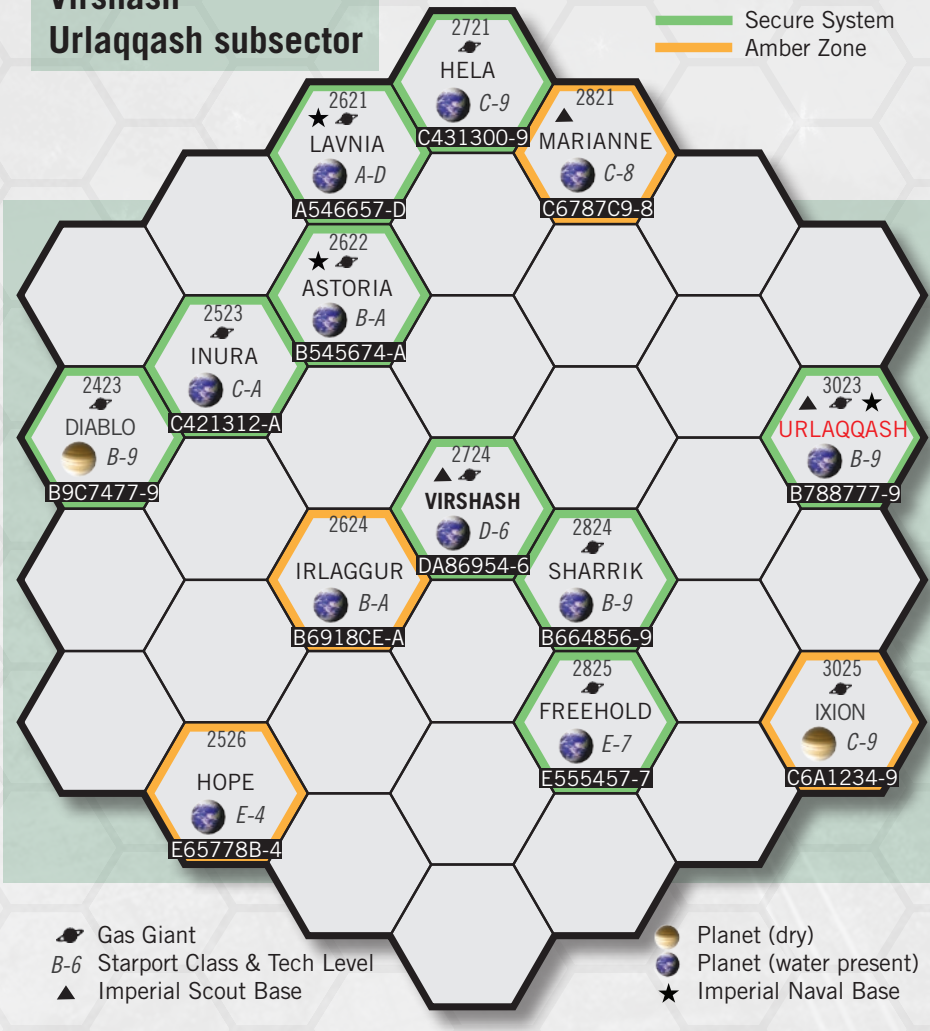
With a length of nearly three metres, standing close to 1.8 metres at the shoulder, and massing close to 1,000 kilograms, the Virushi are among the largest intelligent races known to the Imperium. Virshash is a Size A, dense atmosphere world just within the borders of Imperial space of Reaver's Deep; atmospheric density notwithstanding, the planet is heavily irradiated by the more distant of the world's two suns. These factors of high gravity, dense atmosphere and heavy radiation have shaped the Virushi, guiding their evolution into the awesome form of today.

The Virushi are squat, massively built creatures, covered by overlapping plates of leathery armour. They walk – and can run, with surprising speed – on four tree-thick legs and are capable of extraordinarily delicate manipulation with two sets of arms. The arms of the lower pair are heavily muscled and extremely powerful; the upper pair seem withered by comparison but are amazingly dextrous.

Their semi-erect posture has led some humans to call the Virushi 'centaurs with tank blood' or 'intelligent bulldozers'. They are immensely strong, but this strength must be set against poor sensory equipment. Their eyes, nearly buried beneath massive brow ridges, work well in brilliant sunlight, but are not at all good for seeing in poor lighting conditions; they are almost useless in darkness. Their ears are evolved for hearing sounds transmitted in the dense atmosphere of their homeworld. Normal sounds in a standard atmosphere are near their lower threshold of hearing.

SOCIETY

As the Virushi progressed towards civilisation, an unusual social unit – called the 'cooperative' by sophontologists – came into being. Individual Virushi had to eat a great deal, and range over a wide area, to feed their massive bodies. The tendency, then, was towards a highly individualistic, even solitary existence. However, those individuals who cooperated in building shelters, making tools, tending fire and, of course, raising families had a better chance of survival. The resultant culture today is semi-feudal. Obligation and duty are complex and interwoven; the individual's love of freedom is carefully balanced against a feeling of responsibility towards others. The concept of coercive government is inconceivable – and incomprehensible – to these people. They give freely of their own abilities and services, and expect a minimum of outside interference in their lives. A Virushi will work in voluntary cooperation with others, but cannot be ordered to do something it does not want to do.



Though they appear frightening to humans, the Virushi are a gentle race, largely because they are of such great size and strength. As one of the larger lifeforms on their homeworld, they were not forced to aggressively dominate their environment, and cultural units never evolved past the cooperative stage. Organised states, large governments and large-scale warfare never came into being. A lack of drive has tended to keep the Virushi from becoming anything more than what they have always been: a contented, pastoral, almost utopian culture. Many individuals, however, do possess an urge to leave their homes, see the universe, and try to serve others as they have always served their own cooperatives.

Virushi found off their homeworld are most likely to be engaged in a career which stresses service to others; others are found in work which caters to

their highly individualistic way of life. Their great dexterity makes them excellent doctors - indeed, a Virushi surgeon was recently elevated to the emperor's personal medical staff. An extreme dedication and fervour to help others characterises such Virushi encountered in jobs of this kind.

Because they will not take orders, Virushi do not join the military even though their great size would make them fearsome fighters. Many an Imperial drill sergeant has been heard bemoaning the fact that such perfect fighting machines are also pacifists who do not even understand the concept of war. In their chosen fields, however, the Virushi have distinguished themselves on many occasions.

EQUIPMENT AND VEHICLES

Virushi hands are close to human in terms of shape and articulation, but they prefer equipment built to cope with their size and bulk – human gear tends to get crushed or come apart far too easily. As a result, an item built for Virushi will be more robust, heavier and costs 1.5 times as much as the human equivalent. A Virushi using human equipment can do so without undue risk if they have time to be careful. Under stress, such as combat, there is a straight chance of 12+ on 2D that the item will be broken when used.

Virushi require a great deal of space to hold their massive bulk. When carrying Virushi in starships, or otherwise providing accommodation, tonnage requirements are twice those for humans. To be comfortable, a starship cabin must displace at least 8 tons, while cramped or military facilities require half that. Virushi will endure discomfort stoically, but it is wise to provide staterooms of sufficient size to avoid severe damage to the room's interior by accidental flicks of the tail. A partition can be removed between two existing staterooms and heavy-duty Virushi furnishings installed, for Cr5000. Most Virushi passengers will cheerfully pay the extra amount on a ticket to have such modifications made.

Environment is also a factor. Accustomed to dense atmospheres, Virushi treat a standard atmosphere as thin and a thin atmosphere as very thin. They tend to make jokes about their vacuum-breathing friends, while humans in Virushi conditioned rooms often complain of drowning in the thick soup Virushi like to breathe.

VIRUSHI TRAVELLERS

Virushi are gentle, compassionate, and do not indulge in aggressive speech or behaviour. Extremely polite and soft-spoken at all times, the Virushi voice is naturally rather quiet and weak, due to differences in atmospheric pressure between their own world and those of humans.

Virushi will fight, particularly when the lives of friends or charges are threatened. They do not, however, seek conflict. They rarely carry weap-

ons, and prefer negotiation to combat. Placid in the face of threats, and largely indifferent to pain, the Virushi never become angry. They will tend to be concerned, even apologetic, if forced to cause damage or pain.

Virushi will not give orders, though they may make suggestions and offer advice in a diffident fashion (which sometimes inspires a quick obedience from those around who feel that the awesome body, rather than the gentle mind, should be obeyed in every whim!). Equally, they do not take orders, though they may be persuaded to do something for the common good. Virushi expect this same behaviour from others, but are more amused than troubled by the alien (to them) lack of harmony and cooperation found among other species. Attempted coercion and threats do not move or anger them. At first, Virushi will be amused by, and then ignore, such gambits. Reason and negotiation will be attempted for as long as possible but finally, if all else fails, they will humbly and apologetically deal with their antagonist using as much violence as necessary.

Limitations on Virushi senses should be kept in mind at all times. Soft sounds are inaudible to Virushi, and peripheral vision is very limited. Responding to anything behind them requires a ponderous turn, making them slow to respond to threats from their rear.

Psionic powers are not uncommon among the Virushi but, like all other Imperial citizens, their development and use are suppressed.

More than anything else, their philosophy of non-violence colours everything the Virushi do. They may spend hours trying to persuade non-Virushi comrades of the benefits of peaceful negotiation, reason, and discussion, and might need to be persuaded of the need to carry out a plan involving violence even if there is absolutely no alternative.

Characteristics

STR and END are both determined by rolling 1D+10. These characteristics can be improved by later modifications earned during the Virushi's career to as high as 20.

DEX is determined by rolling 2D+2.

SOC is determined by rolling 2D-2. Virushi SOC does not improve as a result of service; any increase gained during a career is applied to EDU instead. The Virushi do not care about the intricacies of society, and do not fit in well; they simply do not share the same concerns about status as most within the Imperium.

Traits

Virushi Travellers all possess the following traits.

Weapons Aversion: Virushi have little knowledge of or aptitude for using weapons. The first skill earned in either Gun Combat, Gunner, Heavy

Weapons or Melee is always at level zero, after which the skill is increased as normal.

Walking Tank: All Virushi have Protection 4 from their natural armour and can make two attacks with natural weapons (tail lash or stomps) per combat round. Each attack uses Melee (natural) and does 2D damage.

Poor Senses: Virushi suffer DM-2 on all Recon and Survival checks when using their natural senses outside their normal environment. The modifier would not apply to vision in very bright light or hearing in a dense atmosphere, for example, but under 'human-norm' conditions a Virushi is at a disadvantage.

Careers

Virushi cannot enter any organised military career such as Army, Navy and Marines.

Virushi receive DM+1 on enlistment checks to join the Scouts, as their way of life appeals to Virushi individualism. Virushi also receive DM+1 on checks to enter professions that require self-reliance and/or involve helping others. The most obvious examples are the medical profession and service aboard a free trader, but a case can be made for others.

GANSUR TENDER

The Gansur was conceived as a workhorse vessel that could be adapted to a number of different roles. It is built around a central docking/grappling area capable of supporting four craft each of up to 100 tons displacement, or two craft of up to 200 tons. These may be small starships such as the Type S scout/courier or much smaller vessels such as cutters and launches. However, the Gansur really comes into its own when used as a tender to support jump boat operations.

Jump boats are the smallest jump-capable craft available, typically displacing exactly 100 tons. Whilst this, and the fact they carry a jump drive, might cause some observers to define these vessels as starships, they are not designed for independent operations and require the support of a tender or installation.

The Gansur uses a standard close structure design with command and control spaces forward, drives aft and the 'working' parts of the ship in between. All capabilities are calculated assuming the vessel has 400 tons of small craft attached to its grapples. It can make 2.5g acceleration without any craft attached, which does not in any way compromise the vessel's integrity.

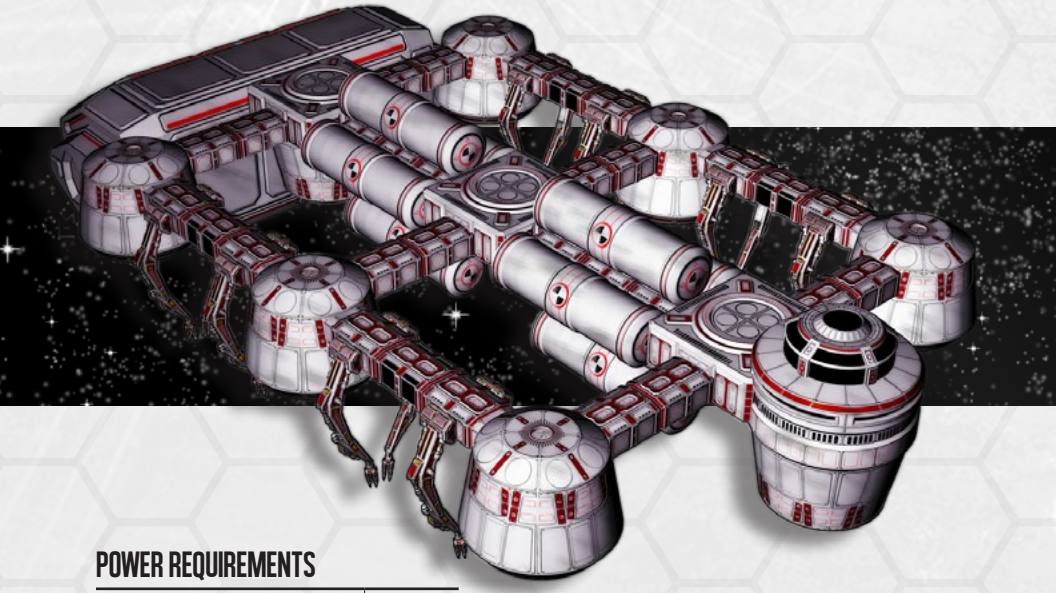
Craft are carried on a pair of outriggers aligned with the ship's main axis. The iconic image of the Gansur is of a Scout Service tender with two scout/couriers arranged nose-to-tail under each outrigger, though more commonly the tender operates with cylindrical jump boats or smaller craft. Subordinate vessels may cycle through a dock/refuel/depart sequence allowing the tender to support far more craft than can be carried at once, though this does require that non-jump-capable craft be conveyed to the operations area by some means.

The command area is basic, consisting of a standard bridge and small craft-operations room from which subordinate vessels are guided in to dock and given departure routes that will not interfere with others. Immediately aft of the bridge is a block of four cabins for the most essential flight personnel. The remainder of the ship's accommodation is arranged in similar blocks interspersed with common areas, a mess hall and a recreation chamber. Crew facilities are generous to allow long-term deployments, but divided up in such a way that part of the common-area allocation can be repurposed for additional accommodation or equipment without interfering with other common areas.

The Gansur is designed to be capable of a two-parsec jump with four hundred tons of craft on its outriggers. Jump performance is not increased when operating without craft, unlike manoeuvre capability. Internal fuel is sufficient for two consecutive jumps, or more commonly for a there-and-back operation without refuelling. The additional 100 ton fuel tank is intended to support craft operations but is constructed in such a way that part or all of it can be converted to other uses.

This concept pervades the whole design philosophy of the Gansur. Common areas can be converted to equipment or working spaces, and there is room for upgrades and alterations throughout the vessel. One or more docking stations could fitted with a 100-ton pod carrying mission-critical systems, or an extra fuel tank. There is also space to upgrade the vessel's very light armament. As standard, four single beam laser turrets are carried as a deterrent and means of defending against minor attack. Vessels taken into military service usually receive an upgrade to dual or triple turrets, and often gain additional weaponry.

The Gansur has considerably more power plant capacity than it requires. The excess power is sometimes used to operate the systems of subordinate vessels, allowing their own power plants to be shut down for maintenance. Some variants and conversions make use of all excess power, and may even need to build an extra plant into one of the available spaces.



POWER REQUIREMENTS

Basic Ship Systems	400
Manoeuvre Drive	400
Jump Drive	400
Sensors	1
Weapons	20

GANSUR TENDER

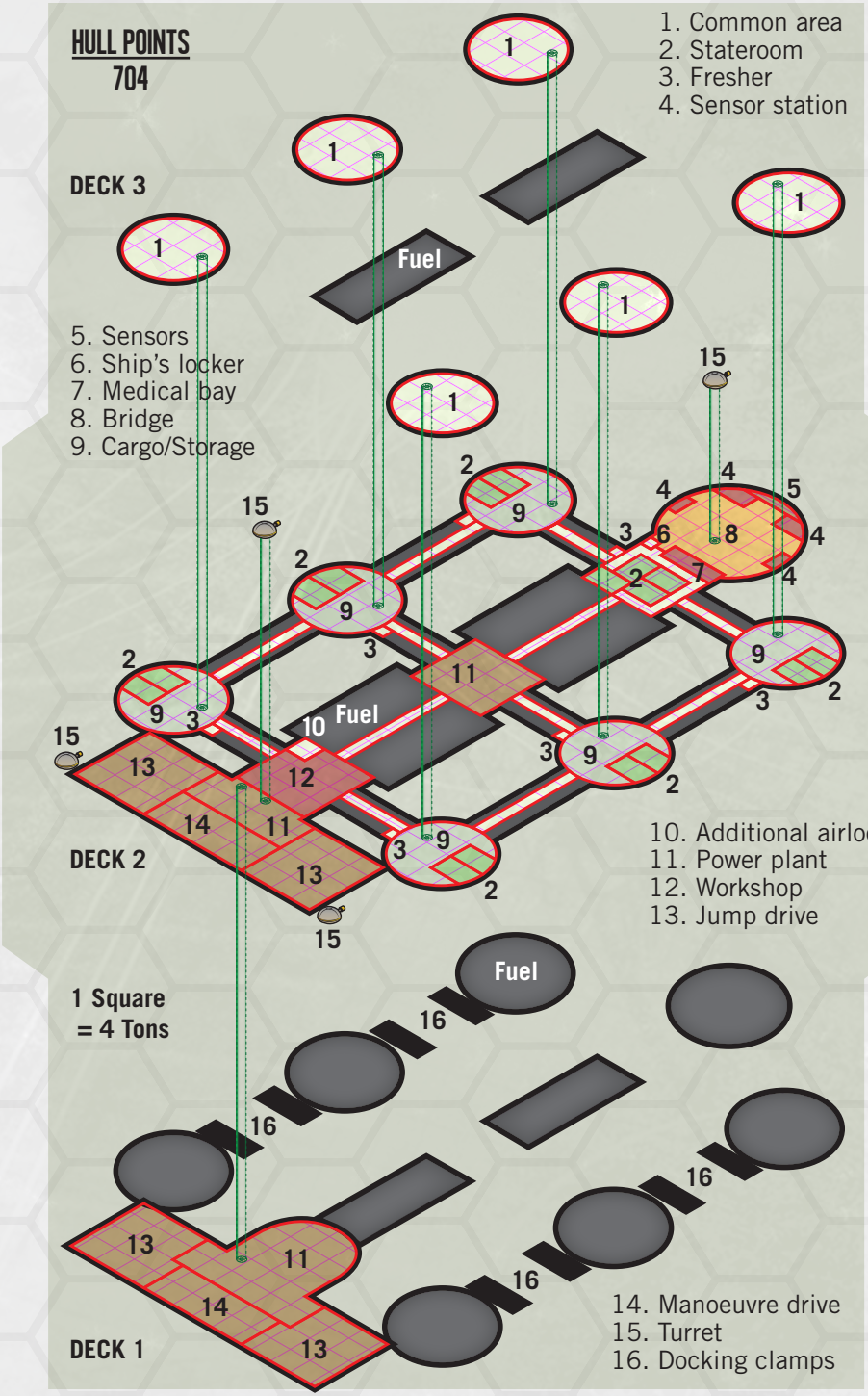
TL12		TONS	COST (MCR)
Hull	1,600 tons, Dispersed Structure	-	72
M-Drive	Thrust 2	40	80
J-Drive	Jump-2	105	157.5
Power Plant	Fusion (TL12), Power 1,350	90	90
Fuel Tanks	2x J-2, 20 weeks of operation	860	-
	100 tons additional fuel	100	-
Bridge		40	10
Computer	Computer/5bis	-	0.45
Sensors	Civilian Grade	1	3
Weapons	Single Turret (beam laser) x4	4	2.8
Systems	Type III Docking Clamp x4	40	8
	Additional Airlock	2	0.2
	Sensor Station x4	4	2
	Medical Bay	4	2
	Workshop	24	3.6
Software	Library	-	-
	Manoeuvre/0	-	-
	Jump Control/2	-	0.2
Staterooms	Standard x16	64	8
Common Areas		120	8
Cargo		102	-
		Total:	447.75

CREW

Captain, Astrogator, Pilot, Engineers x8, Maintenance x 2

RUNNING COSTS

Maintenance Costs: Cr37312/month
Purchase Costs: MCr447.75


HULL POINTS
704
1. Common area
2. Stateroom
3. Fresher
4. Sensor station
DECK 3
Fuel
5. Sensors
6. Ship's locker
7. Medical bay
8. Bridge
9. Cargo/Storage
Fuel
10. Additional airlock
11. Power plant
12. Workshop
13. Jump drive
DECK 2
1 Square
= 4 Tons
Fuel
14. Manoeuvre drive
15. Turret
16. Docking clamps
DECK 1

ROLES AND VARIANTS

The Gansur is commonly encountered supporting survey operations, both privately and in Scout Service hands. The manufacturers make much use of an image of a Gansur tender conveying four scout/couriers to a central point from where they conduct charting or survey operations. This can be effective, especially if several very distant points in the system are to be mapped in detail. In this mode of operation, the tender jumps to a central point and waits while the scouts make a microjump to their designated operation area, carry out their mission, then return. It may be possible to refuel the scouts at the tender, though capacity is limited unless a supply vessel is available. Nevertheless, this technique allows more efficient recharting of distant areas than deploying several small ships. A similar method can be used to chart a cluster of worlds. This is rarely done on an initial survey but follow-up and cartography-updating missions are often carried out by a tender plus smaller vessels.

Tenders of this sort are also used to support interstellar communications by minor governments and corporations. A tender stationed in a backwater system can refuel couriers and send them on their way, keeping itself topped up by using fuel shuttles skimming from a local gas giant. Where communications need to be maintained across a rift, a common approach is to send a tender to the midpoint of the route with a complement of jump boats aboard, using these to set up a cycle of replenishment and refuelling, then use vessels ranging from the humble scout/courier to the jump-4 Starstreak jump boat to maintain fast information transfer. A chain of tenders could in theory be used to bridge a larger rift.

Some militaries use the Gansur as a support vessel for system defence boats. A tender can carry two 200-ton SDBs on its outriggers, enabling them to be positioned at a distant gas giant without a lengthy in-system transit or quickly redeployed at need. One method of keeping notoriously cramped SDBs on station without the crews suffering psychological effects is to rotate crews though them every resupply mission, bringing boats home for maintenance in a continuous cycle.

Tenders are also used as rescue or salvage ships, sometimes with modifications to their grapples to allow a vessel of up to 400 tons to be moved between star systems. This allows rescue of stranded vessels that cannot be repaired in situ, or salvage of whole wrecks. More commonly a salvage tender will carry specialised pods on some of its grapples, with a shuttle or two for approaching the wreck and a mobile workshop on others.

A similar approach is used by some prospecting or small-scale mining companies, carrying seekers or other 100-ton craft on the outriggers to cover a wide area. The tender allows the group to remain on station far longer than a collection of prospecting craft, and can carry a comprehensive laboratory to investigate claims without endlessly running samples to a port. Surface base modules can also be carried on the outriggers, allowing a prospecting or small mining installation to be set up quickly and supported in place using cargo pods once the base modules are delivered.

SALVAGE RIGHTS

Finding an abandoned starship can be extremely lucrative for Travellers, but there are many complications. In their rush to get aboard and see what riches are to be found, Travellers may forget that ships are not abandoned lightly, and if no-one else has found the wreck there must be a reason.

Interstellar salvage law varies from one polity to another, but most systems agree that someone who finds a completely abandoned vessel has certain rights to it. This is not the same thing as the wreck becoming the property of whoever boards it first; there are legal processes that must be followed in order to have legitimate salvage rights.

Of course, the Travellers could just bypass the niceties and strip the wreck for what they can sell, but this sort of illegal salvage operation brings its own problems. Starship components have identifying tracers built into their structure, so if the Travellers start selling bits of a ship reported missing, they will sooner or later have to account for how they came by the components. At best this means fines for illegal salvage, and if they attract the attention of anti-piracy agencies the Travellers may be in for a bad time.

OWNERSHIP AND SALVAGE RIGHTS

In order to conduct legal salvage work, salvage rights must be assigned. The simplest situation is where the legal owners of a vessel contract a salvage vessel to carry out work on their behalf. This is clear-cut and free from legal entanglements, and can provide steady income from contract work without much risk. It is not particularly lucrative however, as salvage crews are usually paid a modest fee to conduct work on behalf of the owners.

In this situation the salvagers can expect a fee of no more than 0.1% of the ship's current value. This assumes the vessel is in a condition where it is practicable to repair and return it to service, or has sufficient working components to be useful in repairing or refitting other ships. A vessel with drives and power plant that could be returned to service would meet these criteria even if the rest of the ship was completely trashed, since these expensive components could be used to replace systems aboard a similar vessel.

This situation assumes the vessel's operators still have legal ownership. There is a common misconception that abandoning a ship creates a free-

for-all situation and it becomes the property of whomever comes along next. This is not always the case; a vessel temporarily evacuated remains the property of its operators until someone proves in court that the abandonment has become permanent. This can be a lengthy process, as most ship operators will fight to retain their assets even if they are drifting around a distant star system with nobody aboard.

There are certain conditions that make the process of obtaining salvage rights much simpler. If the craft has been abandoned longer than a standard year or is demonstrated to be 'impractical to reoccupy' then it will normally be declared salvageable. Impractical to reoccupy could refer to the wreck's location or condition, and may be subject to legal wrangling. However, in this case salvage rights will normally be assigned within a few days to anyone who can prove they have been aboard the wreck and are capable of salvaging it.

Salvage rights rarely come free. Normally there is a fee of around 0.01% of the vessel's estimated value, part of which goes to the original owners. Once the fee is paid, the Travellers will have exclusive salvage rights to that particular vessel. Enforcement of rights can be problematic, but in well-policed systems a beacon declaring salvage work in progress is often sufficient. There are always those who will try to slip aboard and grab what they can, however.

Salvage rights grant the Travellers permission to strip whatever they can from the wreck and use or sell it. Around 10% of the proceeds from salvage are payable to the original owners unless the salvagers buy all rights, which costs more than the fee noted above, or there are circumstances that negate ownership. For example, if a vessel is lost due to the proven gross negligence of its owners, they cannot profit from its salvage. In the case where an insurance company or similar underwriter has paid out to the owners, the insurer is now the owner and is entitled to the same percentage of salvage.

In the case of military vessels, private salvage rights are only ever granted to firms that have a good relationship with the owning force, and salvage is normally conducted on behalf of the owners rather than on a freelance for-profit basis. Even if salvage rights are granted, some components are off-limits. The military will usually pay a good price to have weapons and electronic systems returned, and vigorously pursue those who try to keep components for their own use or to sell them.

RE-REGISTERING

Salvage rights do not convey ownership of the vessel as a going concern. In order to operate a salvaged vessel (legally, at least) it is necessary to re-register it and pass a set of spaceworthiness inspections. This is usually a rigorous process, but some ports are notorious for their laxity. This may be simple negligence, or could be a deliberate policy to attract

business or conceal criminal activity such as bringing pirated vessels back into service.

The salvaged vessel must first be returned to a spaceworthy condition. The usual approach is to obtain components from other salvaged wrecks, only buying new what cannot be found elsewhere. Once the vessel is ready the process can begin. Done properly, re-registration spaceworthiness checks are extremely thorough, requiring hours of diagnostics and a series of dockside then space trials. A skilled team can complete the checks in 2-3 days, usually charging a fee equivalent to 0.2% of the ship's estimated value. A far trader returned to reasonable condition and estimated to be worth MCr25 would cost Cr50000 for a proper set of checks.

It is almost inevitable these checks will highlight many defects, hopefully minor ones. Repairing them will impose further costs, but a couple of rounds of retesting is normally included in the original fee. Once the ship is declared fit for space the legal details of registry can be competed – this will usually cost about 0.005% of the ship's original (new-built) cost. For a far trader this is another Cr1250 or so.

There are ports where this process can be expedited – a euphemism for 'not carried out properly' – and done on the cheap. For a bribe between 10-40% of the normal fee, certain port officials will issue the appropriate certification and the Travellers can be on their way immediately. Reputable ports will regard such documentation as questionable however, creating the possibility of undergoing repeats of the spaceworthiness tests on the orders of a more responsible port official. These checks may find problems the original one simply ignored, grounding the ship or requiring more bribery to get moving again.

SALVAGE VALUE

Bringing in a distressed vessel (such as one that has lost power or has had to be evacuated due to an environment control issue) will typically net the Travellers a fee equivalent to 0.1% of the ship's new value. This is a 'rescue fee' and does not confer salvage rights. If a ship is to be salvaged, the Travellers will need to berth it somewhere. Most major ports will not allow Travellers to tie up a landing dock whilst they dismantle a starship, but smaller installations may be willing to rent out space.

Renting space, along with access to normal starport services and the occasional borrowed toolkit, costs the ship's tonnage in Credits, per week. This may be more than standard berthing fees since the port is not making any money from trade or other economic activity on the part of the vessel. Sometimes a port operator will hike up the price once the Travellers cannot easily leave, and bargaining is always an option.

The salvage value of a vessel or its components depends on a number of factors: age, wear, maintenance and of course whatever happened to

make the ship derelict. The Salvage Value table gives an indication of the salvage value based upon the original cost of the ship. Roll 2D and apply the following modifiers.

- For every 10 full years of the ship's age at the time it was abandoned: DM+1
- For every 25 years the wreck has been abandoned: DM+1
- If the ship has had a proper cycle of annual maintenance and periodic refits: DM-2
- If the ship was mildly neglected (this often applies to vessels that are not part of a formal shipping line, such as free traders): DM+2
- If the ship was neglected during its lifetime: DM+4
- If the ship was very much neglected: DM+6
- If the vessel was a 'coffin ship'; barely spaceworthy and improperly maintained: DM+8

In addition, the referee should impose a DM ranging from +0 to +10 depending on the severity of the incident that caused abandonment. It is unlikely (unless someone has been tricked) that anyone would abandon ship without conditions at least worth DM+2. Moderate combat or collision damage implies DM+4; serious damage DM+6. A vessel that was reduced to little more than a hulk would be worth DM+8. DM+10 applies to ships that have been shot almost to splinters.

Salvage Value

2D + Modifiers	Salvage Value as % of original value
0-2	80+3D%
3-5	60+3D%
6-8	40+3D%
9-11	20+3D%
12-15	10+2D%
16-18	5+1D%
19-21	1D%
22+	D3%

For example, the Travellers find the wreck of a subsidised merchant. The vessel was 30 years old when she suffered a serious incident and was lost. Her condition at the time was typical of an independent merchant ship – slightly run down but with regular-ish maintenance. This adds up to DM+5. The vessel suffered a serious internal fire and systems failure, but is structurally more or less intact. The referee imposes DM+3 for this, for a total of DM+8.

Rolling 2D, the referee gets a result of 5; plus 8, this gives 13 – the salvage value of the wreck is 10+2D%. The referee rolls an 8, so the

wreck has a nominal salvage value of 18% its original cost. If everything aboard the wreck could be salvaged and sold it would net the Travellers over MCr16! However, this is a nominal value. What the Travellers actually get depends on how much work they are willing to put in.

MAKING MONEY

The quickest way to make money on a salvaged ship is to sell it to a breaker or someone who wants to strip the wreck – or perhaps eventually return it to service. A breaker will typically offer 5% of the ship's salvage value, or half that if the vessel is not brought to their yard by the Travellers. This may seem low, but in the case above it would still net the Travellers Cr800000 or so, for the trouble of finding a wreck and getting it to a breaker's yard. The latter can be difficult, especially if the ship has to be towed, but this is still quick and relatively easy money.

Alternatively, the Travellers can break the ship themselves and sell off the parts. This will be a slow process, since it requires finding someone who wants to buy specific ship parts that may or may not be in good condition. A breaker can afford to take years over this, probably ending up with a hulk that still has parts they will never be able to sell. Travellers, by definition, tend to have other things to do. It might be possible to make a deal with a breaker, such that the Travellers get a percentage of sale price in return for the breaker hosting the wreck and handling inspection and business transactions.

The alternative is to rip out whatever can be easily accessed and take it somewhere for sale. This approach is quick-and-dirty, and often causes damage to components as others are removed. What is left becomes increasingly worthless after each quick plundering for useable parts. In each case a single Engineer check is made at Average (8+) difficulty by the Traveller overseeing the salvage operation. The Effect of this check determines the value of components salvaged and reduction in value of what remains. The more quickly salvage work is done, the more damage is done getting valuable components out.

Quick Pillage is a tongue-in-cheek term for grabbing the most valuable components and ripping them out. One person can quick-pillage 100 tons of ship in one day. Quick Pillage yields D3% of salvage value per point of Effect, and reduces the value of the remainder by four times as much.

Hurried Salvage takes four times as long as a Quick Pillage. It yields 1D% of salvage value per point of Effect and reduces the value of the remainder by twice as much.

Careful Salvage takes ten times as long as a Quick Pillage. It yields 2D% of salvage value per point of Effect and reduces the value of the remainder by as much.

For example, the wreck of a subsidised merchant has a salvage value of MCr16. The Travellers make a Quick Pillage of the salables, getting an Effect of 2 on their Engineer check. This is worth D3% per point of Effect; the Travellers roll an impressive 6, and manage to pull Cr960000 worth of high-value components out of the wreck, reducing its value by four times that (MCr3.84) in addition to the value of salvage they removed. The total reduction in value of the wreck is MCr4.8. There is MCr11.2 worth of useable salvage still aboard.

The value of salvaged components is nominal. That is to say, the Travellers might manage to sell them to someone who really needs those parts for more, or might end up taking less for them in order to get some quick cash. If the Travellers use salvage to fix up a ship that needed repairing, its nominal value can be counted towards the cost of repairs.

HALBERD* Salvage & Rescue

The Jaice Group*

**Referee's Briefing 1 - Companies and Corporations*:
Halberd Salvage & Rescue is a salvage and starship-breaking company. **Jaice** presents itself as a diversified manufacturing and services business group but it might be better described as a legitimate-seeming front for a variety of semi-legal activities including starship re-registry and salvage.

GROUND VEHICLE

UNIFIED MOBILE SOLUTIONS F-500 FIELD POWER UNIT

Unified Mobile Solutions is a specialist company producing heavy vehicles designed to support field operations of construction, mining and similar heavy-industry companies. The primary purpose of this vehicle is to put a mobile fusion reactor wherever it is needed. Its own power plant gives it effectively infinite range and heavy tracked suspension can cross most terrain. The F-500 is fully sealed against vacuum and has an airlock for operating in hazardous environments.

The cab is spacious and doubles as a working area, with both driving seats swivelling round to give access to a bank of sensors and instruments. These, like the crane on top of the vehicle, are intended to assist a project once the vehicle is in situ. The crane is occasionally used to rescue other vehicles or reposition equipment, but for the most part the F-500 acts as a command centre and brain, sitting at the centre of a web of power take-off cables feeding everything from lights to heavy earthmoving equipment.

Behind the cab is a small living area with bunks for up to eight people, a galley, and fresher. There is seating of accommodation for personnel other than the two crew, but this area allows the F-500 to provide support to crews of other vehicles who would otherwise require living quarters to be provided. The bunk area is sometimes converted into a more comfortable living area for the crew, essentially turning the F-500 into an extremely upmarket ATV with an infinite range.

FT-500 FIELD POWER UNIT

Armour	
Front	15
Sides	15
Rear	15

Traits

ATV

TL	12
Skill	Drive (track)
Agility	+0
Speed (cruise)	Medium (Slow)
Range (cruise)	100 years
Crew	2
Passengers	-
Cargo	2 tons
Hull	150
Shipping	25 tons
Cost	Cr 692550

Equipment	• Airlock • Autopilot (basic) • Bunks x 4 • Communications System (advanced) • Control Systems (enhanced) • Crane (medium) • Fire Extinguishers • Fresher, • Fusion Plant (advanced) • Galley • Navigation System (improved) • Laboratory (2 person, DM+1) • Life Support (long-term, 10 people) • Sensors (improved, hardened) • Vacuum Protection

Equipment	
Autopilot (skill level)	0
Communications (range)	1000 km
Navigation (Navigation DM)	+2
Sensors (Electronics (sensors) DM)	+1
Camouflage (Recon DM)	-
Stealth (Electronics (sensors) DM)	-

CHARIOTS OF FIRE

Location: *Any mid-tech balkanised world with a breathable atmosphere.*

The Travellers are sent to steal a pair of fire engines seized by a neighbouring government and bring them back across the border safely.

BACKGROUND

Castica and Handor are two small countries on a mid-tech balkanised world. Both have about 250,000 inhabitants, Law Level 6, and TL6. Both border on and are economically dwarfed by Amit, a larger nation which dominates the region.

Handor is ruled by a military junta, supported by wealthy aristocratic landowners. Castica suffered a revolution a couple of years ago when the ruling dictator was overthrown, and a democratic government gained power. The new government is not popular in Handor and Amit since it passed laws detrimental to foreign investment, causing great financial loss in these countries. Border incidents have increased in recent months.

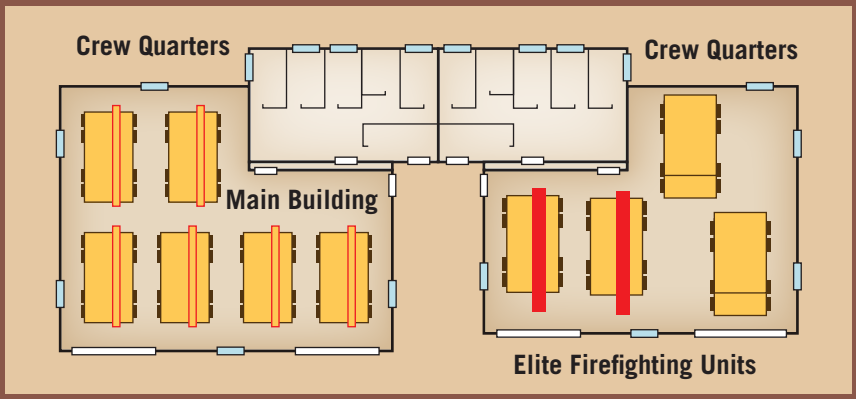
A couple of years before the revolution, Handor and Castica jointly formed a special fire-fighting unit, equipped – at great expense – to handle complicated urban or industrial fires. The unit was better than either country could have afforded individually. It was stationed in Azacul, capital of Handor, but could operate freely in both countries. The capitals of Handor and Castica are only 10km apart, with a good road connecting them, so the arrangement was mutually beneficial – at least until recently. A week ago, the government of Handor nationalised the unit, expelled all the unit's Castican personnel, and prohibited it from crossing the border.

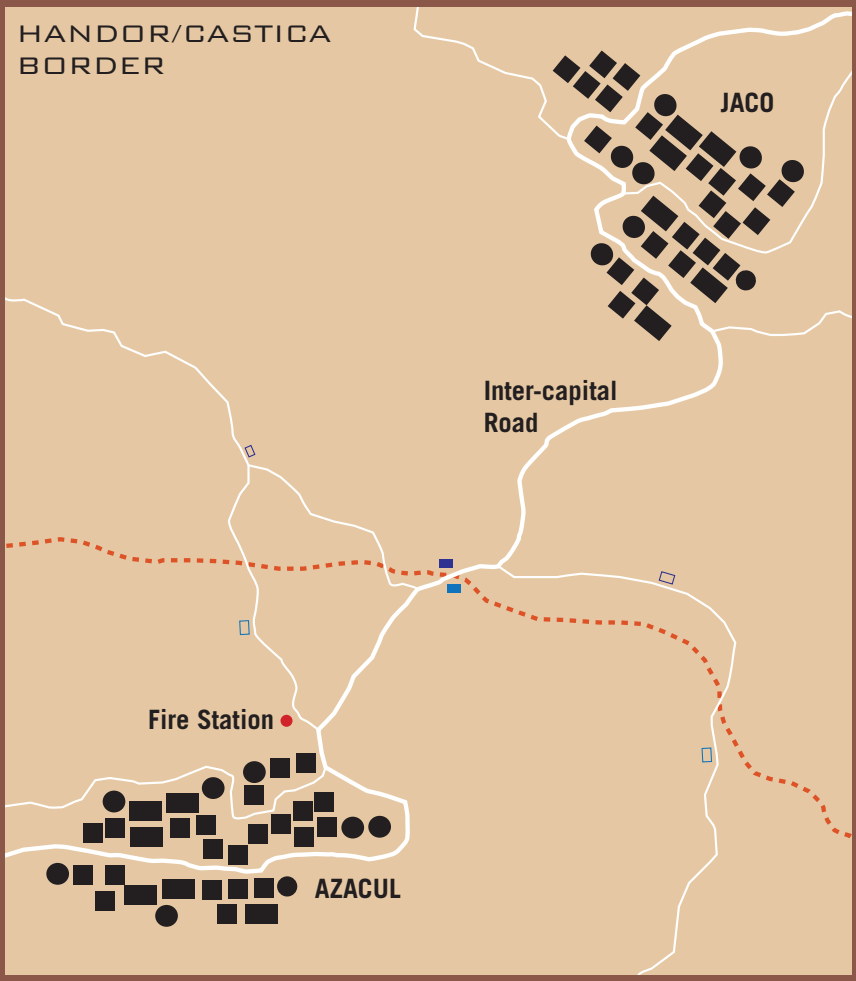
THE SITUATION

As the Travellers pass through Jaco, Castica' s capital, they are approached by a major of Castica's military intelligence. He explains, in a refreshingly forthright manner, that his country needs the help of outsiders. He will tell the Travellers about the advanced fire engines his nation half-owns, mentioning that people could die if they are not available. Since Handor will not be reasonable about the joint firefighting force, his government has been forced to take action.

He offers the Travellers Cr50000 if they will steal two advanced fire engines from Handor's capital and bring them to Jaco. The border

AZACUL FIRE STATION





is about midway between the cities, so the transportation part will be straightforward. Timing might be more of an issue, however. In ten days, the Castican president will make an official visit to Handor to discuss the problems between the two nations. A faction of the Castican government expects the discussion to be unsuccessful, and has decided to try to stage a propaganda coup. The Travellers' task is to steal the two vehicles the night after the president's departure from Handor.

There are several conditions to the mission. The vehicles must be in usable condition when they get across the border. Minor damage is acceptable, but the Travellers will receive a 5% bonus for each vehicle delivered totally undamaged. If only one vehicle is recovered, they will be paid half the promised amount. If the Travellers kill or injure anyone, or if they are caught or killed, Castica will deny any involvement.

The elite firefighting unit consists of two vehicles with thirty-metre ladders and two vehicles with 12 cubic metre foam tanks and sophisticated protective equipment for the firemen. All trucks are capable of 120 kph, have a range of 150 km, and are painted a high visibility yellow.

The vehicles are stationed in the Azacul main fire station, situated in the outskirts of the city. The station consists of two buildings: a main one containing six ordinary fire engines and quarters for their crews, and a secondary building containing the engines and crews' quarters. The doors and windows of both buildings are equipped with burglar alarms. The Castican patron will supply the players with blueprints of the station and maps of the capital and the surrounding countryside.

The border between Castica and Handor is crossed by the inter-capital road and several small roads of low quality. The border crossings are all guarded by the Handorian paramilitary border police and the Castican army. The border police are equipped with TL6 infantry weapons, and somewhat trigger-happy. They should be treated with care, although they can be bribed if the offer is large enough and made with proper diplomacy.

The Castican army is also very jumpy, and will also need to be carefully handled. Since the government is not officially involved, the army cannot be informed ahead of time. It would be unfortunate if the vehicles got safely to the border, and then destroyed in a firefight…

Firefighting Vehicles

Any vehicle can carry portable firefighting gear to be used by personnel when they get to the danger area. It is also possible to create an expedient fire truck by improvising mountings for portable gear on a utility vehicle. Both options are cheap and reasonably effective for small fires, but for major conflagrations a dedicated firefighting vehicle is necessary.

Additional Traits

Fire and rescue work involves three main areas of activity: saving lives, extinguishing fires and dealing with related hazards such as dangerous chemicals.

Fire and Rescue: This trait turns a vehicle into a basic firefighting vehicle using water either from its own internal reserve or a source such as local hydrants. At low Tech Levels equipment is extremely limited in capability but still much better than hand-held equipment available. A standard Fire and Rescue vehicle of any Tech Level cannot deal with chemical vapour or spills, other than to spray water at them and hope for the best.

Advanced Fire and Rescue: An Advanced Fire and Rescue vehicle carries equipment for dealing with a range of hazards including chemical fires and spills. In addition to being able to put large quantities of water down on a fire, an Advanced Fire and Rescue vehicle has a tank of suppressant foam which will put out fires that water will simply spread around. The foam also has limited chemical neutralisation properties and will contain most chemicals or biological hazards.

Hazardous Fire and Rescue: A Hazardous Fire And Rescue vehicle has all the capabilities of an Advanced Fire and Rescue vehicle plus resistance to hazards that would overwhelm a lesser vehicle. Tyres are chemical-resistant and the cab has a protection system that maintains a slight overpressure, keeping chemical agents out, providing the crew use only the dedicated hostile-environment airlock system. A battery of detectors and processing equipment allows agents to be identified and threat level assessed. In addition to water and foam the Hazardous Fire And Rescue vehicle can also deliver neutralising chemicals by spray, diluted in water via its hoses, or by means of a small mortar-like device that lobs canisters above a chemical fire. These can be filled with various neutralising agents, but the standard mix is useful against a range of industrial and spacecraft-associated chemicals as well as reacting with air in a highly endothermic manner. Essentially, these crystals pull the heat out of a fire and may even extinguish it on their own.

Vehicle Modifications

The modifications presented here can be applied to a variety of vehicles, so the cost per Space is given as a multiplier rather than an addition. Apply all additions (such as rough terrain modifications) before multiplying to get the final cost of the vehicle.

Fire and Rescue: A fire and rescue vehicle is designed for the purpose. It adds pumps and hoses, stowage for individual firefighting, breathing and rescue equipment, and a degree of heatproofing to protect the crew and equipment carried aboard.

Tech Level: 4
Cost per Space: x1.2
Traits: Fire and Rescue

Advanced Fire and Rescue: In addition to fire and rescue equipment, the Advanced Fire and Rescue modification adds suppressant foam and a greater variety of hand-held equipment.

Tech Level: 7
Cost per Space: x1.5
Traits: Advanced Fire and Rescue

Hazardous Fire and Rescue: In addition to advanced fire and rescue equipment, the Hazardous Fire and Rescue modification adds chemical agent detection and environmental protection for the crew as well as the capability to tackle chemical spills and fires beyond the capability of standard vehicles.

Tech Level: 7
Cost per Space: x2
Traits: Hazardous Fire and Rescue

Suppressant Tanks: Sufficient foam or water to allow one attempt at control or suppression – which might mean several minutes of hosing or period of setting up followed by a targeted foam burst – takes up 8 Spaces and costs Cr4000. Multiple tanks can be combined into one or more larger tanks.

Rescue Ladder: An extendable ladder on a swivel turntable, supported by heavy structural reinforcement and a set of deployable stabilisers. A vehicle may carry a ladder 10 metres long plus 5 metres for every 10 Spaces it has. Each 10 metre section of ladder uses up 4 Spaces inside the vehicle. Cost is Cr1000 per metre.

HAZARDOUS ENVIRONMENT
FIRE ENGINE

Two of the advanced firefighting vehicles based at Jaco are designed to tackle industrial or complex urban fires, and equipped to deal with chemical hazards as well as more conventional fires. They are built on a large, heavy ground vehicle chassis of a conventional design – cab and crew compartment at the front with the power plant behind and foam tanks at the rear. Although a large vehicle, the fire engine is built for high acceleration and the ability to cross rough or debris-strewn ground. It is tricky to drive at speed under these conditions, so drivers normally receive enhanced training.

Two crewmembers drive the vehicle and operate its systems but can dismount and join their colleagues, leaving the vehicle to automatically provide updates on hotspots, chemical content of smoke, and new hazards via the crew intercom system.

HAZARDOUS ENVIRONMENT FIRE ENGINE

Armour	
Front	3
Sides	3
Rear	3

Traits

Hazardous Fire and Rescue, Off-Roader

TL	10
Skill	Drive (wheel)
Agility	+2
Speed (cruise)	Medium (Slow)
Range (cruise)	1500 (2250)
Crew	2
Passengers	-
Cargo	-
Hull	24
Shipping	6 tons
Cost	Cr 169 000

Equipment	• Airlock • Autopilot (improved) • Communications System (improved) • Control Systems (improved) • Corrosive Environment • Life Support (short term) • Navigation System (improved) • Sensors (improved) • Smart Wheels • Suppressant Tanks x3

Equipment	
Autopilot (skill level)	2
Communications (range)	500 km
Navigation (Navigation DM)	+2
Sensors (Electronics (sensors) DM)	+1
Camouflage (Recon DM)	-
Stealth (Electronics (sensors) DM)	-

ADVANCED FIRE ENGINE

Two of the advanced firefighting vehicles based at Jaco are designed for rescue work rather than chemical-laced fires. They have a full set of hoses and suppression gear, but their primary equipment is a high-precision ladder capable of reaching 30 metres up a building or across an obstruction to create an escape bridge. The vehicle is as fast and manoeuvrable as its stable-mates, and built on the same chassis – though without the advanced life support features.

The engine's suppressant tanks are smaller than the hazardous environment vehicle, but sufficient to assist in attacking a fire.

ADVANCED FIRE ENGINE

Armour	
Front	3
Sides	3
Rear	3

Traits

Hazardous Fire and Rescue, Off-Roader

TL	9
Skill	Drive (wheel)
Agility	-1
Speed (cruise)	High (Medium)
Range (cruise)	570 (825)
Crew	2
Passengers	6
Cargo	-
Hull	120
Shipping	20 tons
Cost	Cr 321 500

Equipment	• Autopilot (improved) • Control Systems (improved) • Communications System (improved) • Navigation System (improved) • Rescue Ladder (30m) • Sensors (improved) • Smart Wheels • Suppressant Tanks

Equipment	
Autopilot (skill level)	2
Communications (range)	500 km
Navigation (Navigation DM)	+2
Sensors (Electronics (sensors) DM)	+1
Camouflage (Recon DM)	-
Stealth (Electronics (sensors) DM)	-

TOWING SHIPS

The concept of salvage work often conjures up images of grubby ships operating on the fringes of the law. That does happen, but the salvage and rescue field is much broader than many Travellers imagine. There are opportunities to make good – and honourable – money as well as some very murky areas a crew might delve into.

Large Class A and B starports maintain a flotilla of tugs and rescue craft, or at least vessels that can carry out these roles at need. A ship getting into distress close to such a port need only transmit a request and wait for assistance. The port operators will charge a fee for a rescue, but often this is covered by a ship's insurance. Even if it is not, being rescued at your own expense is a lot better than not being rescued at all.

If the problem is something that can be fixed aboard the distressed vessel, a repair crew will usually be dispatched to deal with the matter. It may be necessary to bring spares or new components from the port, but this is straightforward. A ship that has developed a more serious problem will have to be towed in, which is a rather more difficult process.

Lesser starports may not have a dedicated rescue tug. If so, it will be necessary to use whatever craft are available. This may mean improvising towing gear. A similar situation arises if the Travellers find a derelict craft or want to help someone under conditions where it is necessary to move the distressed vessel elsewhere.

RESCUE FEES

Rescue work can be quite lucrative, though there is no way to predict when a job will come along. It may be months before a ship needs help, so most rescue vessels either operate on contract whereby they accept a reduced fee in return for a regular income, or they carry out other work until required. For example, a salvage and rescue vessel could conduct repair work on the local starport or other installations until it is needed.

Generally speaking, the fee for rescuing a craft that is totally disabled – whether that means it requires major repairs in place or has to be towed to safety – is calculated at 0.1% of its current value. For example, if a brand-new a 600-ton subsidised liner (worth MCr161.523) suffered a drive failure, the salvage crew who brought it into dock could expect a fee of Cr161523, likely rounded off to the nearest Cr10000.

This can vary considerably, however, especially where there is only one possible rescue ship and the rescuers feel like negotiating. Conversely,

some starport operators offer a rescue service for free, feeling that increased confidence among spacers will bring in more ships and thus produce revenue in other ways.

The rescue fee is one reason why captains are reluctant to declare an emergency. A smaller fee, usually a fraction of the complete-rescue fee, is payable for assistance with lesser emergencies. Salvage and rescue teams sometimes compete with one another for the right to make a rescue. This can mean undercutting fees, racing to get to the distressed vessel before a competitor, or all manner of other shenanigans. An unwary rescuee might find they are being towed to the wrong destination by a bunch of yahoos whilst the neatly-uniformed starport salvage team curses them on the radio. Salvage teams have even been known to start shooting at one another whilst they have a distressed ship in tow.

TAKING A CRAFT UNDER TOW

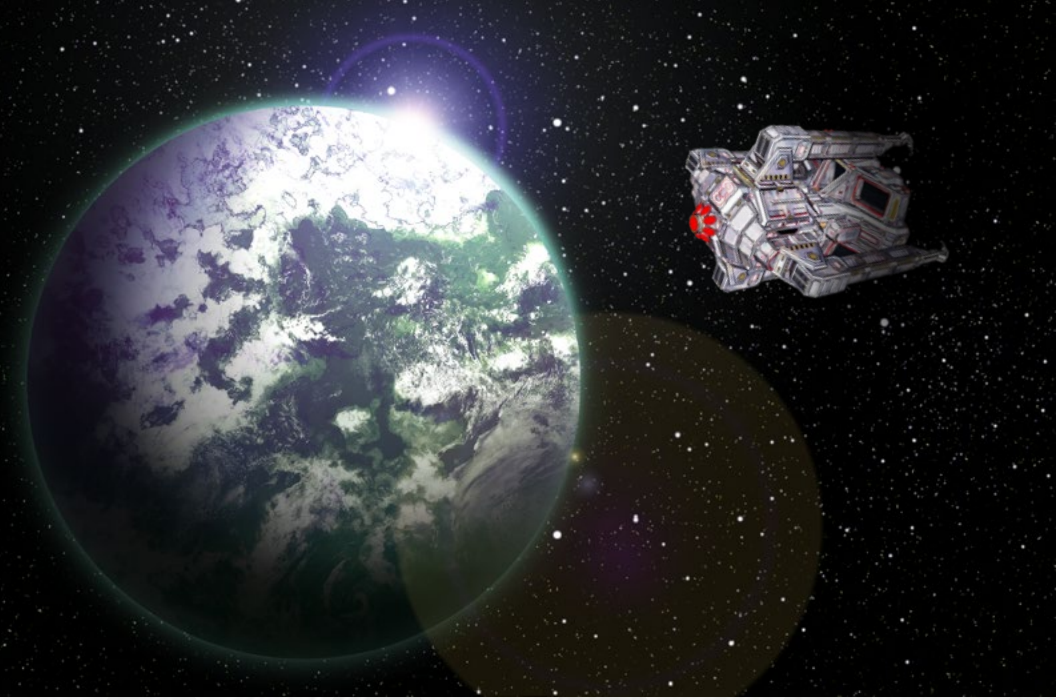
Taking another vessel under tow is not an easy process. The first challenge is attaching tow lines; many, but by no means all, vessels have attachment points which makes the job a little easier, but it is still necessary to get the lines to the distressed vessel. This requires someone to jump from one ship to the other, or use a remotely operated attachment drone. If the target craft is tumbling, there is a real danger of being swatted away or crushed. Once cables are attached, towing can begin but this is not a simple task.

Attaching Tow Lines

Jumping across to attach tow lines, or sending a drone, is an Average (8+) task, using Vacc Suit or Electronics (remote ops) skill. A tumbling ship increases the difficulty to Difficult (10+), and if the attempt is failed the Traveller or drone will be knocked away. For a drone under power, this simply requires getting it back under control but a Traveller might be in more trouble. Thrust pistols and EVA (Extra-Vehicular Activity) packs allow the Traveller to halt their motion and try again, requiring only a Vacc Suit check. Without such equipment the Traveller will drift off into space unless tethered to their ship, in which case they may end up banging into it as their tether swings them around.

If the target craft is tumbling quickly, the difficulty increases to Very Difficult (12+) and anyone failing the check takes a number of damage dice equal to the negative Effect. Drones are simply destroyed.

Once on the hull, cables must be attached. If the vessel has attachment points this is straightforward enough. If not, it may be necessary to improvise an attachment point by cutting hullplate. To improvise an attachment point, a Difficult (10+) Mechanic check is necessary. Failure does not indicate the cable cannot be attached; instead the Effect of the check is used to determine how good the cable fix is. This may not become apparent until towing begins.



Towing

It is not necessary to have excess Thrust available to tow another ship. Any amount of thrust is sufficient to eventually effect a change in velocity, and in any case harsh acceleration is best avoided. When towing another craft, the combined mass of both vessels is used to determine acceleration. A 100-ton tug with Thrust 4 can make 4g acceleration when unladen, but when towing a 400-ton subsidised merchant its acceleration will be greatly reduced. The simplest way to calculate this is:

Multiply the towing vessel's Thrust by its Tonnage. Divide the result by the combined Tonnage of both vessels.

In the example above, this comes out as 400 divided by 500, or 0.8g. This is entirely sufficient for most circumstances, through if a ship has to be rescued quickly or dragged out of a steep gravity well it may be beneficial to use more than one tug.

By way of example, if three 100-ton, Thrust 4 tugs were towing a 2,000-ton ship, their combined towing power would be (100x4)x3, or 1,200. This is divided by the total mass of all ships, (2,300 tons), to give 0.5217g.

Assuming the tow line holds, getting another craft moving is not all that difficult. The problem is that it will not stop moving. If the craft under tow had operable drives the problem would be a lot easier – but then the craft would not require towing! If the towed craft does not have operable drives it will continue to move in a straight line when not being pulled by

the towing ship. This could result in the towed vessel being lost in deep space, crashing into the starport or a nearby ship, or helplessly plunging into the gravity well of a world or star. More immediately, a towing vessel will pull the target ship towards it. If it then slows down, the craft on tow will smash into it from behind.

When any change to course or speed is made, including getting the towed craft moving, a Difficult (10+) Pilot check is necessary. The Effect of the tow line attachment is applied as a DM to this check, as is the Thrust of the towing ship. This is not a measure of how much power can be applied, as such, but of the finesse with which the throttle can be used to increase or decrease the tension in the tow line. An additional DM-2 is applied if using an improvised tow line attachment.

If the check is failed by -6 or more, the tow line parts, possibly pulling something off one or both ships. In addition, both vessels suffer damage equal to the negative Effect of the failure. Success indicates the direction or speed change is performed without hazard. Note that slowing down a towed vessel can be done by carefully moving around it so that the tug is effectively pulling it backwards. This can cause a towed vessel to turn around, but if done gently it is not a major problem. Violent deceleration or changes of direction can cause the towed vessel to whip around on the end of the tow line, and in the worst-case scenario the two ships may begin whirling round and round one another, linked by a cable that may or may not snap.

To avoid problems of this sort, towing ships rarely use full thrust. Changing speed or direction at less than 0.1g imposes no additional problems. For each full 0.1g applied, DM-1 is imposed on all Pilot checks. Normally towing operations are extremely gentle, but in a crisis it may be necessary to pour on the thrust and hope for the best.

When towing in a gravity well, a varying DM applies:

Gravity Well DM

Size Code or Type	DM
1-3	-1
4-6	-2
7-9	-3
A+	-4
Small Gas Giant	-5
Large Gas Giant	-6
Main Sequence Star	-8
Giant or Neutron Star	-10

The referee should note that these are simple modifiers, and that gravitational force drops off with the square of distance. Thus DMs should only be applied at close orbital distances. The DM can be halved (drop fractions) further away. A vessel close enough to a star to be suffering towing penalties will be receiving a lot of stellar radiation and heat, and may have quite a variety of additional problems.

Towing Equipment: A set of heavy-duty towing cables and the means to attach them costs Cr500 per ton of hull. This includes emergency release mechanisms and attachment points that will withstand greater forces than the cable itself. Retraction equipment is also included in the cost, along with attachment blocks for use on the ship to be towed. The strain required to break a cable of this sort is immense, so providing thrust is used very gently the tension in the cable will be insufficient to damage it.

However, sudden increases in tension can snap the cable or rip it from its mountings. This may occur where a towing ship accelerates hard with a slack cable, which suddenly pulls tight, or when violent course changes are attempted. To avoid breaking the cable under such conditions, make an Average (8+) Pilot check with DM-1 per 0.1g of acceleration being applied, and an additional DM-1 for each multiple of the towing ship's tonnage the towed ship has.

For example, 5,000-ton navy destroyer is trying to tow a 20,000-ton logistics ship out of a battle zone. The pilot fails to take up the slack gently enough and the cable becomes taut. The pilot tries to avoid snapping the cable but needs to make an Average (8+) Pilot check with DM-4 since the ship being towed is four times the tonnage of the destroyer. For a 100-ton tug the multiple would be 200 times, and with such an immense DM it is obvious that the towing cable will simply part. Fortunately, tug pilots are good at remembering to ease the slack up ever so gently.

Attachment Drone: Attachment drones can be used to carry a cable to a distressed ship and fix it to an attachment point. They cannot improvise an attachment, but creative Travellers might cling to the drone and be carried to the target point. A drone can be launched through a missile launcher or manually from an airlock. Each drone allows one attempt (successful or not) to attach a set of towing cables. Drones cost Cr5000 each and ten consume 0.5 tons as cargo.

TOWING POD

A towing pod is a remotely controlled 10-ton craft equipped with a powerful manoeuvre drive and high-capacity batteries to power it, along with a primary drive unit and manoeuvring clusters. The pod can be used to move a towed craft very slowly, or apply braking and turning thrust to a vessel under tow with cables. Pods of this sort are often used in shipbuilding and repair yards, and occasionally by criminals intend on stealing objects – including starships – in space.

A 10-ton pod towing a 100-ton ship can manage a maximum of 0.273g. This is quite enough for slow repositioning within a shipyard but probably not sufficient for salvage work even with quiet modest ships. Thus either multiple pods will be used – if available – or a conventional tow undertaken with assistance from the pod.

TOWING POD

TL10		TONS	COST (MCR)
Hull	10 tons, Standard	-	0.5
M-Drive	Thrust 3	0.3	0.6
Power Plant	High Efficiency Batteries (power 360)	9	0.9
Bridge	Remote Control System	0.5	1.5
Computer	Computer/5	-	0.03
Sensors	Basic	-	-
	Manoeuvre/0	-	-
Cargo		0.2	-
		Total:	3.53

CREW

Remote Pilot

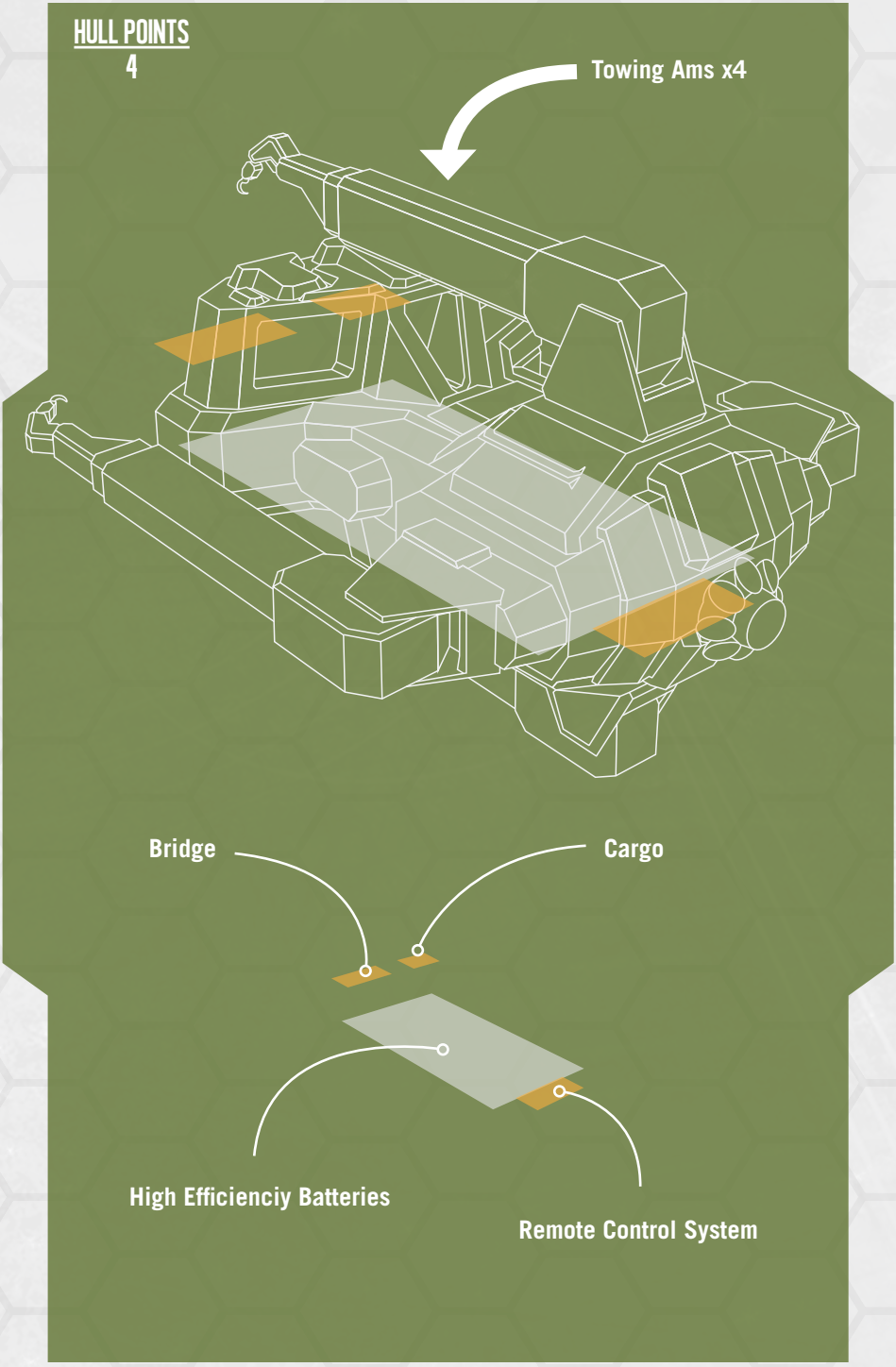
RUNNING COSTS

Maintenance Costs:
Cr295.167/month
Purchase Costs:
MCr3.53

POWER REQUIREMENTS

Basic Ship Systems	2
Manoeuvre Drive	1

HULL POINTS
4



CALL OUT THE GUARD!

Security forces exist in almost every society. Organisation can vary considerably, as does equipment, and even the role of a security force can diverge. In general, however, security forces have three main purposes:

- To protect the citizens of their home society.
- To uphold the laws of their home society.
- To ensure the stability of their home society.

These duties are inter-related, but emphasis can shift depending on the nature of society and its leaders. Often preserving the stability of the culture translates to oppressing the masses and ensuring they do not launch a revolution, but occasionally security forces will remove a bad ruler in the name of the people. Much depends on the character of the people involved.

Travellers are likely to come into contact with local security forces at the starport, after which they may have interactions if they break the law or need to interact with local officials. There is a correlation between local Law Level and the amount of bureaucracy encountered when trying to obtain permits or other security-related paperwork, but the trustworthiness and competence of the security force are generally independent of Law Level.

Most security forces operate on a three-tier basis, with different equipment and response techniques at each level.

Routine personnel undertake most normal tasks such as standing guard, patrolling an area, carrying out customs searches and the like. Routine personnel tend to be equipped for the possibility of trouble, such as a patrol officer carrying a sidearm, perhaps with access to more powerful weapons at need.

Response personnel are equipped to back up their routine colleagues with heavy firepower or specialist capabilities. In a society that has considerable numbers of psions, this might mean the possession of psionic shielding equipment or personnel may be psionically adept in their own right.

Elite personnel are equipped as best as possible for the worst situations. These may be heavy elements of the ruler's personal guard or a specialist security formation, perhaps even a 'bodyguard' regiment of the planetary army.

A security force will usually have some sort of investigative branch. This may be in the form of attached officials or a dedicated investigative/detective branch. For example, a starport security service might have its own customs experts, but need to borrow criminal detectives, accountants or forensics experts from planetside law enforcement. If expert personnel are not available the local authorities must simply do as best they can.

Not all security forces are armed. If private citizens are permitted to own weapons, it is common for those who police them to have access to at least the same level of equipment. This is not always the case, however. At the beginning of the 20th Century it was normal for many British citizens to own firearms, but this was not seen as making it necessary to arm the constabulary. Indeed, officials are recorded as stating that if a police officer needed a weapon he could simply borrow one from a passing gentleman – this actually happened during at least one major shots-fired incident!

ORGANISATION AND SIZE

Security organisations vary considerably in size and may or may not be formally organised. Generally speaking, richer and larger societies tend to have more formal security arrangements; small communities may rely on part-time officials or a posse of concerned citizens. To determine the level of organisation a given world's security force has, roll 2D on the Organisation table, with the following modifiers:

Population 3-: DM-2
Population 6+: DM+1
Population 8+: DM+3

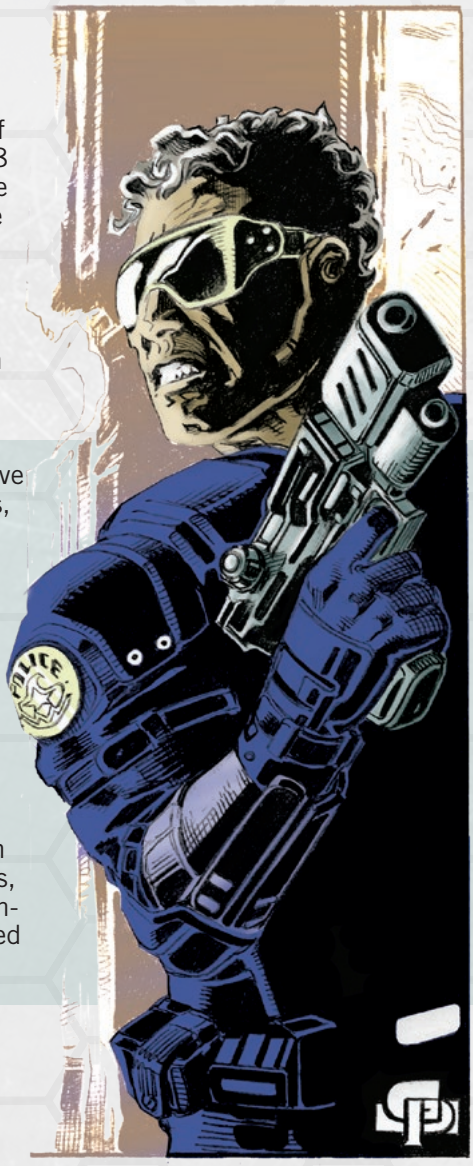
Law Level 0: -4
Law Level 1-3: -1
Law Level 6-8: +1
Law Level 9+: +3

Organisation

2D + Modifiers	Size and Organisation	Multiplier
0	No security force	0
1-3	Small, part-time security force	0.2
4-6	Small professional security force	0.4
7-9	Modest-sized professional security force	1
10-12	Large professional security force	1.5
13-15	Huge professional security force	2.5
16+	Enormous security force	5

A planetside security force will normally have one officer for every 500 citizens (based upon the planet's Population code), plus an administrative and command staff who do not carry out routine patrol and security work. A major facility such as a starport tends to have more personnel, depending on the amount of traffic it receives. The figure of 250 security personnel for a Class A port and 100 for a Class B installation can serve as a starting point rather basing them on the Population code.

The multiplier from the Organisation table modifies this figure. Thus a world with a population of 10,000 and a small professional security force will have 20 security personnel modified by the multiplier of 0.4. This gives a figure of just 8 security personnel for the whole population. Most of the time this force will be adequate, equivalent to a sheriff and a handful of deputies for a small city. However, it is difficult to provide specialist expertise with a force this small.



A part-time security force will have very few professional members, if any. Instead it will rely on local responses which may or may not be mandated by law or custom. For example, a small port might have one part-time security official – who might be the port authority director or a designated individual who has a job of their own. In the event of trouble, this person leads a response cobbled together from local shopkeepers' security guards, concerned citizens, and any tough-looking drunks who can be rounded up from the local bars.

A professional force will usually have a uniform and issued equipment, though this can be scanty. A low-budget force may be equipped only with an armband and a cheap pistol, backed up by whatever the members can provide themselves. Such a force may still be well organised and highly competent, though its members will have to contend with the poor impression their equipment tends to make.

To determine the level of funding a force has, roll 2D on the Funding table, with the following modifiers:

Class E Starport or Population 2-: -2
Class D Starport or Population 4-: -1
Class B Starport or Population 7+: +1
Class A Starport or Population 9+: +2

Funding

2D + Modifiers	Funding Level	Equipment DM	Routine/ Response/Elite
0-1	No significant funding	No equipment provided	100%/0/0
2-3	Grossly underfunded	-4	100%/0/0
4-6	Underfunded	-2	95%/5%/0%
7-9	Normal level of funding	0	90%/9%/1%
10-12	Well-funded	+2	80%/15%/5%
13+	Lavishly funded	+4	70%/20%/10%

A force with no significant funding relies on whatever its members can provide, or donations from helpful citizens. Equipment tends to be eclectic and random. Other levels of funding determine the equipment a typical officer will have, and also the proportion of routine, response and elite personnel. Note that personnel who are equipped to a response or even elite level may sometimes be encountered undertaking routine work. For example, a crisis response unit might wear the same uniform and work alongside customs officials, only donning heavy armour when necessary.

To determine the equipment of a secure force, roll 2D and apply the Equipment DM from the Funding table.

Equipment

2D + Equipment DM	Equipment Level
0-	None provided
1-3	Minimal
4-6	Basic
7-9	Standard
10-12	Well Equipped
13-15	Heavily Equipped
16+	Lavishly Equipped

Equipment will be provided at the local Tech Level for planetside forces, and a minimum of TL8 for personnel at an orbital starport or similar installation. Response personnel are equipped one category higher and elite personnel are equipped two categories higher.

Minimal Equipment typically means a cheap sidearm, minimal ammunition and a few necessary items such as a flashlight and handcuffs. Minimally equipped personnel usually lack 'official' communications equipment, though they may have their own.

Basic Equipment typically means a standard sidearm and necessary tools such as flashlight, communications equipment and hand-held instruments if the Tech Level permits.

Standard Equipment means a sidearm, a full set of law enforcement tools, good communications equipment with access to data-transfer capability (if Tech Level permits) and light body armour. Personnel may have access to additional weapons such as a shotgun in a patrol vehicle.

Well-Equipped indicates personnel have good body armour and personal weapons, with access to heavier weaponry including possibly light automatics (submachineguns or assault rifles) and specialist weapons such as sniper rifles. These may not be carried all the time but be kept in an accessible location.

Heavily Equipped indicates plentiful supplies of all equipment noted above, some or all of which is of a Tech Level 1-2 above local. A heavily equipped security force may have access to military grade combat armour for some elite units.

Lavishly Equipped indicates very high quality equipment which may be 3-4 Tech Levels above local if appropriate. A heavily equipped security force will have access to military grade combat armour for some response units and may even have a battle dress equipped unit if the Tech Level permits.

COMPETENCE

A security organisation might be extremely well-equipped but incapable of carrying out basic functions, or extremely skilled and dedicated but lacking the tools to get the job done. The Competence of a security service refers to its ability to coordinate an operation, spot discrepancies and act upon them, and avoid letting wrongdoers slip away due to basic errors. Competence is also used as a guide when a security service brings charges against someone – an incompetent service might leave loopholes, misplace key evidence or otherwise derail its own activities. A low Competence rating does not indicate personnel crash their cars, drop their weapons and fall over like Keystone Kops… at least usually. It does have the potential to make the service a laughing stock however.

This is determined by rolling 2D on the Competence table, with the following modifiers.

Part-time Security Service:	-4
Underfunded:	-1
Grossly Underfunded:	-3
Huge Security Service:	-1
Enormous Security Service:	-2
Well-Equipped or Better:	+2

Competence

2D + Modifiers	Competence Rating	Effect
0-	Shambolic	DM+/-4 plus possible Fiasco (11+)
1-2	Chaotic	DM+/3 plus possible Fiasco (12+)
3-4	Disorganised	DM+/-2
5-6	Low	DM+/-1
7-8	Normal	DM+0
9-10	High	DM+/-1
11-12	Very High	DM+/-2
13+	Near-Flawless	DM+/-3

The DM listed under Effect is applied to checks made by members of the organisation to detect crimes, spot concealed weapons, collect forensic evidence, figure out the crooked accounting system, or any other procedural task. It may also be applied against someone trying to fast talk, browbeat, or otherwise derail or defeat an investigation. The DM would be applied against Travellers trying to mount a legal defence, in addition to the skill of the prosecuting lawyers. It represents the ability

of the security service to build and present a case, which is then used by lawyers to obtain a conviction.

If a possible Fiasco is noted, the security service may cause its own case to collapse or a supposedly coordinated operation might become so disjointed that the targets are able to escape without much effort. Even if the Travellers bungle their caper or escape, a Fiasco indicates they get away with it due to the incompetence of local law enforcement.

CORRUPTION

The level of Corruption in a security service indicates its willingness to ignore rules for various reasons. This can mean the system is riddled with bribery or that cops actively extort money out of those they encounter. It can also refer to 'noble cause' corruption, where a security service might bypass due process or fabricate evidence in order to secure a conviction or pursue an agenda. An organisation wracked with nepotism and paralysed by career-boosting infighting wold also have a high Corruption rating. The referee must decide what sort of corruption the security service suffers from – which can be multiple types.

Corruption is determined by a straight 2D roll.

Corruption

2D	Result
2	**Wracked with Corruption**: Personnel actively seek advantage or profit from all aspects of their duties.
3-4	**Severe Corruption**: Virtually impossible to get anything done without bribery, influence or pursuing someone's agenda.
5-6	**Some Corruption**: DM+2 on checks that match the corruption type (such as an attempt to bribe an official or prosecute someone the state considers undesirable)
7	**Normal Corruption**: few organisations are completely clean.
8-9	**Low Corruption**: DM-2 on checks to bribe officials or attempts to persuade them to take unscrupulous action.
10-11	**Very Low Corruption**: DM-4 on checks that go against the organisation's high moral standards.
12	**Virtually no Corruption**: Accepting a bribe or using influence is virtually unthinkable.

Note that it is possible for an organisation to be extremely corrupt in some ways but not in others. For example, a local security service might consider it unthinkable to take a bribe to bend the rules, but will perform origami on them for someone with the right social connections.

INCIDENT RESPONSE

The Incident Response rating indicates how robustly – another word might be 'aggressively' – the service responds to an incident. A high response suggests that personnel deploy weapons a lot and call for backup at the merest hint of trouble. A lower response indicates the opposite – polite, patient attempts to resolve a matter with force used as a last resort. Incident Response is determined by a straight 2D roll.

Response

2D	Result
2	Extreme aversion to the use of force. Personnel will wait too long before deploying weapons or using them, and are very reluctant to call for backup.
3-4	Very reluctant to use force. Personnel will make every effort at a peaceful resolution and may risk their own safety to avoid using weapons.
5-6	Reluctant to threaten or use force, but entirely willing at need.
7	Normal levels of prudence, balancing negotiation against the threat of force.
8-9	Emphasis on officer safety; robust policies on the deployment of weapons in any threatening situation.
10-11	Aggressive, threatening approach to most situations, backed up by weapons and response teams if needed.
12	Positively trigger-happy.

The Incident Response is a general indicator of attitudes and procedures among security personnel. Few will take this to extremes, shooting people for littering or refusing to draw a weapon whilst under fire, but it gives an indication of what degree of threat an officer needs to perceive before he starts shooting.

EXAMPLE: FLATSBURG

Flatsburg is an independent city-state on a balkanised world. It has a population of around 120,000 divided between the city and its surrounding agricultural belt. A small spaceport links the city to the wider universe and sees a few minor trading vessels come through each week. It has Population code 5, and Law Level 3.

First, the referee determines the size and nature of the security force. There is no modifier for Population and DM-1 for Law Level. A 2D roll

comes up 11, modified to 10. Flatsburg has a large professional security force with a size modifier of 1.5. The base personnel level for a planetside security force is one in 500 people, giving 240 personnel. Since the Flatsburg force is large, this is multiplied by 1.5 to 360 security officers. It seems likely that these personnel include rangers who police the countryside, port customs and security personnel, and police for the city. They also double as a paramilitary defence force for lack of any more potent organisation.

The DM for funding is based on population; in this case, it is DM+0. A 2D roll of 6 gives a result of Underfunded. This indicates that 95% of the force are equipped to routine level – this is 342 officers – with 18 better equipped response personnel. There are no elites in this large but underfunded organisation.

Underfunded status gives DM-2 for equipment, and the referee rolls 9 on 2D for a final result of 7. Routine officers have a standard level of equipment – sidearms, light body armour and inexpensive vehicles, whilst the response formation has slightly better equipment and access to submachineguns or rifles.

Underfunded status also gives DM-1 for Competence. The referee rolls 7 on 2D, modified to 6. Competence is a little low, probably due to a lack of funds for training or poor personnel retention. Travellers trying to slip contraband past these officers would gain DM+1 to their checks, and an attempt to investigate a crime and present a case in court would be subject to DM-1.

Rolling 2D for Corruption the referee gets a 3 – Severe Corruption. He decides the security force is basically honest and not particularly receptive to bribes, but its officials are in the pocket of the city administration. Any action that goes against their agenda will be opposed, and the security service is not above fitting someone up to please its masters.

A roll of 6 for Incident Response indicates the security service is somewhat reluctant to use force. It officers are perhaps a little less confident in the authority their cheap and ill-fitting uniforms project and there is a culture of 'deal with it yourself' which the referee decides is also dictated by low funding. Those who constantly request scarce resources or pull response units away from guarding the businesses of the social elite can earn the disfavour of superiors, which in turn is career suicide.

EXTREMOPHILES

The majority of creatures live under conditions familiar to Travellers, within normal limits of air pressure, gravity and temperature. Beyond these conditions, life tends to take simple forms that are harmless to the average Traveller under most circumstances. There are, however, exceptions. The animals presented here are outside normal realms of experience, and should be used by the referee as mysterious anomalies rather than direct hostile encounters. They might also be the subject of a scientific mission or attempt to harvest, remove, exploit or otherwise interact in a manner somewhat different from the usual animal encounter.

PEAK TANGLER

Peak tanglers originated on some distant thin-atmosphere world and spread over the centuries to many systems. They are extremely light, tenuous webs of fibre, each with many super-fine hairs extending in the manner of feathers. When fully unfurled the web can be three metres or more across, or curled up to create a ball the size of a small pebble. When curled, a peak tangler is still very light but dense enough to fall to the ground. The unfurled web can catch the slightest updraft and lift the creature high into the air.

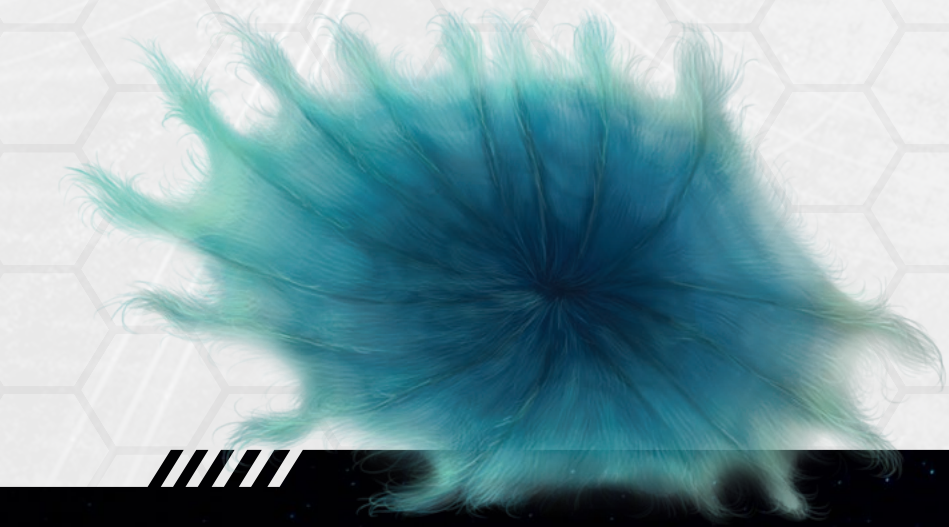
Peak tanglers are so named because they are most commonly encountered amid mountain-tops or the highest levels of tall buildings on worlds with a normal atmosphere, floating free on the winds and feeding off microscopic organic particles. In more dense atmospheres they tend to drift in the upper air, far above cities. It is possible this is how the species initially spread; spacecraft passing through the atmosphere may have peak tanglers up on their hull.

A single tangler can be a nuisance to a Traveller, covering a window or faceplate in semi-opaque fibres and getting in the way of fine work. The tendrils rip easily enough but there are many of them; getting rid of a tangler can be tricky. In theory, a Traveller who somehow got a peak tangler on their face might breathe part of it in, which would be detrimental to both Traveller and tangler.

Peak tanglers reproduce asexually, separating some of their fibres into a new creature when they become too large and heavy to drift easily. On their native worlds, peak tanglers receive little nutrition borne up by the breeze; sufficient to allow them to feed and grow, but populations are small. If a tangler colony becomes established on a world where there is a lot of life at ground level, there will be much more organic matter in the atmosphere. A population explosion may occur.

In many cases, such an event would go unnoticed, but sometimes a peak tangler infestation occurs. This takes the form of tanglers growing too large to float but not dividing. The over-heavy tangler falls to the ground where it continues to sustain itself by absorbing nutrients from whatever vegetation it lands on or from the soil itself. This permits further growth whilst slowly killing the plants beneath. Eventually, the tangler will die but by that time it will have pulled all the organic matter out of the ground beneath it, leaving dead soil in which nothing else will grow. The process can take years or even decades, during which a single grounded tangler can become a mat of fibres several metres deep and hundreds across. The very largest infestations have been known to reach tens of kilometres in width.

Tangler infestation is generally characterised by more or less round areas of light-coloured web-like material on the ground or draped over trees. The webs are thick enough to impede humans or even vehicles, and tanglers can normally only killed by fire or targeted toxins (energy and slug weaponry will have no appreciable effect). Whilst generally harmless to humans, an infestation is an eerie and disturbing sight which may not be recognised for what it really is. Travellers might find themselves wondering what manner of spider could spin such a web…



NAME	Peak Tangler
HITS	24
SPEED	1 m
SKILLS	-
ATTACKS	-
TRAITS	-
BEHAVIOUR	Omnivore, Filter

ARX

Exactly what ARX stands for – or if it is a word or a corruption of one – is a matter for some debate. The name comes from an inscription carved on the bulkhead of a derelict First Imperium scout vessel, lost for many centuries in a backwater system. The state of the ship and presence of an ARX nearby resulted in the term being used as an identifier.

ARX are space-going creatures that resemble asteroids from a distance. Most are roughly shaped like a rugby ball, with protrusions and contours that resemble natural features of an asteroid. Most are less than 30m long on their main axis and 15-20m wide, but larger individuals are rumoured to exist. Their life cycle is something of a mystery but it seems that ARX absorb energy from stellar radiation and particles of matter drifting in space. How they reproduce is entirely unknown; indeed hard facts about any aspect of these animals are rare.

ARX have been encountered in colonies of a dozen or more individuals, which appear to be at most loosely associated with one another. They inhabit ring systems, Trojan asteroid clusters and major belts, though reported sightings are often unreliable as the typical ARX closely resembles a rock. It appears they can move by generating a weak gravitic field – the means is unknown – which allows an ARX to change its position or voyage to another star system over millennia.

There are wild tales associated with these creatures, which may or may not have basis in reality. The least far-fetched suggests that ARX are inquisitive, or perhaps just attracted to gravitic drive systems. Ships have reported being followed through an asteroid belt by 'mobile rocks', which suggests ARX can move quickly when they want to.

According to wilder tales, the ability to generate gravitic propulsion is due to exotic materials found at the core of an ARX, and can be extracted by cutting or blasting it apart. People who tell this tale also speak of particularly large and sometimes aggressive ARX, and claim that some can create a 'gravitic shock' that can damage passing ships. Scientists have recorded gravitic disturbances similar to a large ship emerging from jump space, where no ship was detected. The cause of these gravitic 'ripples' remains unclear, and it is possible that the legendary ARX caused them.

ARX cannot be assessed like other creatures. They are made of silica-based material and are far beyond the boundaries of normal human experience. If they exist at all – which scientists continue to dispute – they do not seem dangerous under most circumstances. However, a ship might find itself being nudged by an inquisitive ARX attracted to its drive output, and unwary prospectors might find themselves in danger if their promising claim turns out to have a silica-based nervous system.

ARX

SARGASSO HIVE

SARGASSO HIVE

The sargasso hive – or hives; it is not clear if there are others on distant worlds – is a gigantic floating cluster of what appears to be seaweed. However, it contains material similar to primitive neurons, and when connected in sufficient quantity can begin functioning as a brain of sorts, feeding off decomposing plant material and animal life. Although crude, the neural network thus created is very large and has achieved intellect similar to lower-order animals.

More significantly, the sargasso hive is capable of using psionic talents, an ability developed to assist in obtaining high-value food. Fish, plankton and sea birds are attracted into the entangling nets of seaweed where they die and are absorbed by the psionic proto-brain of the hive. It has been postulated that if the hive were to grow large enough it might become sentient, though there is no way to prove this one way or another without undertaking a massive programme of feeding to allow the hive to grow sufficiently large. An attempt was made at this some years ago by an organisation dedicated to creating a psionic god for itself. Many members of this possible cult met a mysterious end, and the attempt collapsed.

One thing learned from this project is that the sargasso hive requires a very large amount of food to sustain its plant-based brain. If this is not available in the form of animal life attracted into the seaweed mat, seaweed itself becomes the main source of nutrition. This causes the hive to shrink and in turn weakens its psionic potential. The strength of the hive's psionic talents and the amount of food it requires to sustain its 'mind' correlate to the area of the seaweed mat, which means that doubling in radius requires four times as much food to sustain.

The mat is currently around 4km in radius. It has shrunk to a little less than 1km at times, and never been observed at more than 9km. An increase in size means an increase in psionic ability and therefore more food attracted over a greater area, but this exhausts local resources, causing a new contraction. The mat has also been observed to change locations in a manner that does not correspond to wind or currents, suggesting it has some means of locomotion. If it were to get into rich waters it might devastate the local fishing industry and pose a threat to settlements in the area. Growth would also be rapid, at least in the short term, which could have unpredictable effects.

The sargasso hive cannot be considered a standard animal; it is more like a mobile geographical feature with psionic abilities. Its behaviour might be considered to fit the behavioural categories of siren and filter. Small creatures are entangled in its seaweed tendrils until they die, but the hive has additional ways of dealing with birds and perhaps even unwary Travellers. These are all psionics-based, but in some cases replicate traits possessed by non-psionic creatures.

Psionic Strength: The PSI characteristic of the hive depends upon its size. For every kilometre in radius the hive gains, D3 is added to its PSI. Thus at its present radius of 4km it has PSI 4D3, averaging around 8. The hive's psionic strength replenishes at the rate of D3 points per hour.

Psionic Reservoir: The hive's unique structure acts as a psionic reservoir, storing 1D points per kilometre of radius. This means that at its present 4km radius it typically has 4D points of stored psionic power, averaging around 14. This reservoir can be used before its PSI characteristic, and is replenished by transferring from its PSI.

Psionic Lure: The psionic lure ability works passively, at all times. It automatically attracts small creatures such as plankton and fish, though it produces a general trend to move towards the hive rather than an overwhelming compulsion. Sentient creatures are more strongly but selectively targeted. It is not clear why this is, but it may be an instinctive reaching-out of the proto-mind to others. Unfortunately, it also brings people onto the mat where they tend to meet an untimely end. The Psionic Lure takes the form of Suggestion (see page 198 of the *Traveller Core Rulebook*) to come to the hive. No other Suggestion has ever been observed, meaning this may be an unconscious and invariable talent, but it does have a greater range. Base range is Very Long and can be extended as normal. The constant luring of lesser minds costs the hive no power, but luring a sentient being costs 3 PSI, with increases for range as normal.

Psionic Attack: The hive will not necessarily attack people wandering on its upper surface or hovering close by on grav vehicles. It is likely to attack anyone moving away who resisted a lure attempt, or anyone causing harm. The psionic attack is not like a standard psionic assault. Indeed, it bears a resemblance to the Bioelectricity trait possessed by some creatures. The attack creates an electric field around the target by psionic means, shocking them for 1D damage. This costs the hive D3 PSI, +1 point per extra target. It is not clear how many people or other targets can be shocked at once, but it is known that at least four people can be attacked simultaneously. The attack has a base range of Short, and can be made once every 1D rounds. This is typically used to incapacitate birds and other creatures as food, but can be used in self-defence.

Psionic Skills: The hive is treated as having a psionic skill levels of 1 +1 per full 3 kilometres of radius. At present this indicates a skill of 2 for its talents, a reasonable level but one not directed by rational thought. It is not known if there is an upper limit to the hive's capabilities.

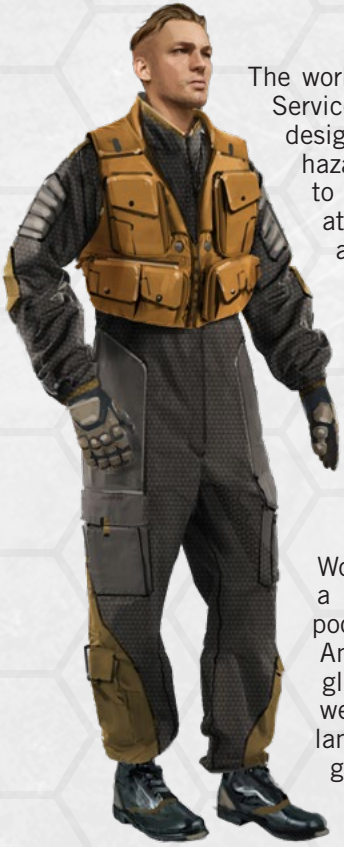
Growth Potential: The hive currently has a similar level of intellect to a mouse or similar small creature. It may become smarter if it grows, and its psionic potential will certainly increase. It is also possible that additional psionic abilities may appear. At least one group believes that with sufficient nutrition the hive will grow to a size where it will become capable of sentient thought and telepathy, but this has not been tested.

IISS FIELD EQUIPMENT

The Imperial Interstellar Scout Service uses a wide range of equipment, with less overall uniformity than the armed services. Some items are standard-issue to almost all personnel, others tailored to one specific requirement. The items presented here can be encountered in the hands or about the person of scouts almost anywhere.

>> SECTION 1: OUTFITS & GENERIC GEAR <<

Working Dress



The working dress of the Imperial Interstellar Scout Service – the famous 'rumpled grey coveralls' – is designed to provide protection from day-to-day hazards. It is gas-resistant, enabling the wearer to survive – with great discomfort – a trace atmosphere if breathing gear is available or avoid contamination with toxic gases and vapours. Tags on the ankles seal to standard-issue boots, and if worn with an emergency survival kit can provide protection against hard vacuum for a few minutes. The Scout Service sells on a lot of old equipment, including working dress, and takes pride that everything still works. Logos are removed from coveralls offered on the surplus market however.

Working dress coveralls are generally worn with a sleeveless 'ship-jacket' which has multiple pockets and attachment points for equipment. An emergency kit is also available containing gloves and a collapsible bubble helmet as well as a 1-hour air bottle, a small hand-held lamp and a multitool suitable mainly for quickly getting into the emergency equipment lockers. The E-kit costs an additional Cr25; Scout Service vehicles usually contain several.

Armour Type	Protection	TL	Rad	Kg	Cost	Required Skill
Working Dress	+1	12	0	1	Cr50	None

Field Dress

Working dress is worn for most routine tasks, but for any situation requiring protection from environmental hazards – which includes hostile action – field dress is worn instead. This consists of a TL15 tailored vacc suit with detachable gloves and a bubble helmet carried in a pocket. The suit is impervious to gas if properly sealed. The suit has slimline, lightweight batteries built in and packs of oxygenated gel which allow 30 minutes' survival (with a helmet) even without a life support pack or air bottles. The suit's batteries are good for 2-3 days of operation under light-load conditions and at least an hour under heavy load. The batteries power the suit's heating/cooling circuit and glow patches on the gloves and torso, allowing a scout to act as his own light source or emergency beacon.

The bubble helmet is normally used only in emergencies. For situations where vacuum conditions are expected, the scout will normally wear a torso piece over the suit, permitting a hard helmet to be worn. Known as a PLSS (Personal Life Support System), this torso piece/pack contains emergency tools and a pair of disposable thruster units known to scouts as 'spray cans'. These permit a distressed scout to get back to safety if they lose contact with a hull in microgravity. Endurance is 6 hours on full life support.

For security operations in non-vacuum conditions, a tactical torso piece and helmet are used instead. The torso piece has the usual magazine pouches, medical kit, snub pistol holster, and a tactical knife/saw useful for rescue work as well as combat.

Armour Type	Protection	TL	Rad	Kg	Cost	Required Skill
Field Dress	+5	15	25	2	Cr24000	Vacc Suit 0
Field Dress with PLSS	+8	15	25	5	Cr28000	Vacc Suit 0
Field Dress with Tactical Torso Piece	+10	15	25	7	Cr26000	Vacc Suit 0

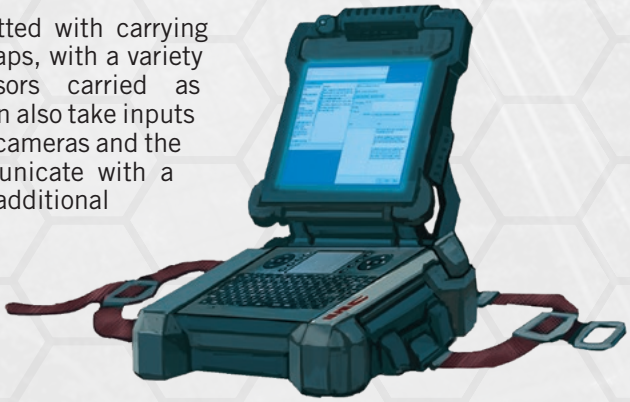
Translation Analysis Unit

A variety of language translators are used by Travellers throughout Charted Space. Many are software systems downloaded to a Traveller's personal comm, using its sound pickups and outputs to provide two-way translation. Scouts will usually have a few useful languages on their comms, but those engaged in contact or liaison work need a more generally-capable device. The IISS Translation Analysis Unit, or TAU, contains a database of hundreds of languages and other communication forms, but does more than merely translate. It analyses sounds and other inputs, cross-referencing with known languages and looking for both matches and patterns.

A TAU can, given enough time and variety of input, determine if what is being heard is a language at all, then begin to decode it. This is a very lengthy process unless there are common points of reference such as known words from a related language. 'TAU-bashing' is a popular pastime among bored scouts. It consists of exposing the TAU unit to non-language sounds and asking for a translation. Some of the things a vibrating thruster unit or a coolant pipe 'say' are hilarious. Others are downright disturbing.

Recreational uses aside, a TAU can attempt to decipher hieroglyphics and similar symbols, or at least determine that a set of marks are artificial. It can interpret light pulses as well as sound, and with olfactory input can eventually figure out even pheromone-based languages. The time required depends on the sample available and similarity to known forms of communication. Often non-sound communication cannot be turned into intelligible language at all, but an indication of emotional state may be possible.

Its rugged case is fitted with carrying handles and pack straps, with a variety of deployable sensors carried as standard. The TAU can also take inputs from comms, remote cameras and the like, and can communicate with a ship's computer for additional processing power.



Item	TL	Kg	Cost
IISS TAU	13	4	Cr4000

Field Glasses

The term 'field glasses' is archaic and refers to simple optical binoculars, which does the IISS Portable Radiation Imaging System (PRIS) a great injustice. It resembles a rugged set of binoculars but is in fact an electronic sensor and display unit capable of 'seeing' all forms of electromagnetic radiation and providing a visible output. It also includes a laser rangefinder and short-range magnetic resonance pulse generator.

Basic functions include optical zoom up to 225x magnification, with gyroscopic magnification and also a 'false stabilisation' system which creates a stable image of a locked target even if the user's hands are shaking and the device is essentially scanning over a large area. The area-scan function can be used to create an image over a wide arc, which is stored to be studied later. This means the user can sweep his PRIS unit across the area to be scanned a few times then duck out of sight behind an obstruction and study the captured scene in detail.

The display can be highly confusing to a new user, and many never discover the true potential of this device. In the right hands it can be used to build a picture of an area across the entire electromagnetic spectrum. Objects that might be invisible to normal cameras or thermal devices might become obvious when their radio-frequency or electromagnetic emissions are scanned for. The resonance scanner allows a limited ability to look 'inside' an object, detecting internal structure or contents by means of magnetic resonance which also give an indication of composition.

The standard PRIS set is manufactured at TL12 and resembles a pair of armoured binoculars. At TL15 most functions of the device can be fitted into a device resembling a set of sunglasses with a thick upper frame. This version still requires a control input, by means of a wrist-mounted unit. A mistake with the controls can result in the user seeing only X-rays or receiving a confusing all-spectrum riot of information, but used correctly the device has many applications from engineering to reconnaissance. The TL15 'sunglasses' version does not incorporate a rangefinder or resonance scanner.

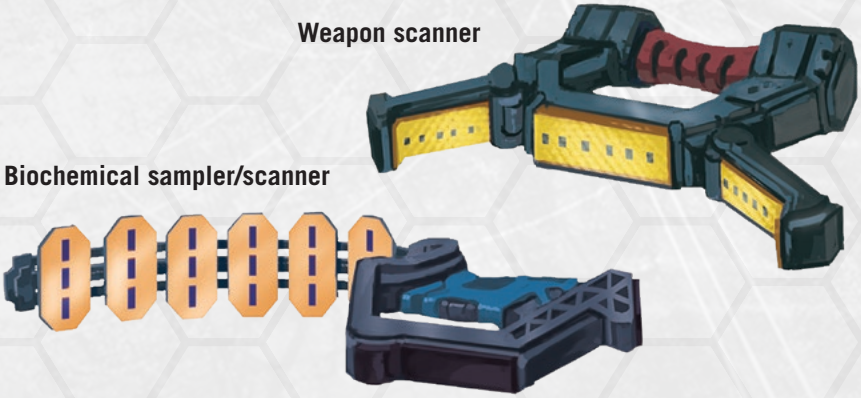
Item	TL	Kg	Cost
PRIS 'Field Glasses'	12	2	Cr3500
PRIS 'Sunglasses'	15	0	Cr7000

>> SECTION 2: FIELD SCANNERS & DETECTORS <<

IISS teams use a variety of hand-held scanning devices, all of which are built on a standard frame. This is rugged enough to survive years of abuse in the field but lightweight and easy to carry. All scanners proved DM+2 on relevant checks.

Weapon Scanner

A handheld device using simple magnetism, magnetic resonance scanning, and an ultrasound emitter, the weapon scanner can detect most known personal weaponry at a distance of a dozen metres or so. Its primary use is to ensure guests do not smuggle weapons into a secured area and that 'unarmed' diplomats really are. It can also detect large amounts of explosives and propellants at a distance of 50 metres or more, giving an indication of where artillery ammunition may be stored or whether a bomb has been planted.



Biochemical Sampler/Scanner

A handheld biochem scanner can detect most harmful gases, spore clouds and the like at a distance of tens of metres, and can conduct analysis of compounds by way of a sampler and probes. The unit is designed to be useful to untrained personnel, and can automatically conduct basic tasks. It will also give warnings of hazardous conditions such as low or high air pressure, toxic gases or low oxygen content in the air. The air pressure and humidity sensors can also give a rough indication of how soon rain or snowfall will begin. This can prevent inconvenience in some cases and save lives in others. A more skilled operator can make better use of the sampler, correlating the presence of certain compounds with known processes to produce a rough field analysis of anything from mineral wealth concentrations or volcanism, to the possibility of life existing somewhere on an apparently barren planet.

Medical Scanner

The medical scanner can be used at a short distance but is intended to be pressed against the skin of the paitent's torso for a full set of readings. In this case it will determine temperature, heart rate and pulse condition, skin moisture and chemical composition of skin secretions, and a range of other information. The device is keyed to a particular species but can be reprogrammed for another, or used to obtain physiological information on an unknown creature. A small detachable needle probe can also be used to take a blood sample, in which case the unit will detect most common toxins and warn of anything else affecting the subject's bloodstream. For example, the presence of certain hormones might indicate a reaction to something in the local environment. The unit's database is extensive but limited; in the hands of a Traveller with medical training it provides useful information but cannot replace a medic's own judgement. An untrained person can still benefit from using the device – for example, it will detect dropping blood pressure due to a wound and advise the user on what to do. The medical scanner can also act as an emergency defibrillator, though this drains the batteries quickly.

Device	TL	Kg	Cost
Weapon Scanner	15	1	Cr7500
Biocehemical Sampler/Scanner	15	1	Cr15000
Medical Scanner	15	1	Cr8000

RAMON SANYARVO

A qualified second officer and master pilot, Ramon is a shabby, poorly dressed individual who, when met, will probably be unemployed. He can present excellent credentials showing years of experience handling a variety of ship types but, considering the demand for good pilots, his appearance and lack of current work will seem suspicious. A little research into his background at any starport computer information centre (consulting lists of accredited pilots, for example) will turn up the fact that Ramon has been blacklisted by a large corporation, Acreidiat Lines. The notation 'untrustworthy' appears beside his name.

Ramon was once a master pilot with Acreidiat, a passenger and freight line operating in the Solomani Rim. He was accused of having an affair with the line president's wife, a charge which he will steadfastly deny if questioned. The blacklisting has blocked all hope of employment by the major mercantile concerns in this region of space.

In the years that followed, Ramon has made his living flying for small freight companies, tramp traders, and local shuttle services. Embittered, he turned to drink, and has been steadily deteriorating in performance, attitude, and appearance. Those small jobs have been increasingly hard to hold on to, and Ramon has become a drifter, making one or two voyages before being fired and left behind on another planet until he can find another short-lived job to keep him going.

Thin, dark, and saturnine, Ramon's appearance is seedy and his face usually silent and withdrawn, but occasionally – especially when drunk – he flies into uncontrolled fits of violent rage. He is antisocial, a solitary drunk, often to be seen in the corner of a bar drinking himself into a stupor.

Ramon may turn up as a potential hireling in response to an advert for a pilot placed by the Travellers. If so, he will (temporarily) curb his drinking in an attempt to reform and secure the position, presenting the best appearance he can manage. Should the Travellers hire him, either without making a check of his background or regardless of it, he will prove to be a first class pilot, with fine instincts for ship handling and wide technical knowledge. Within 1D weeks, however, his drinking will present a problem. At an inconvenient time of the referee's choosing, he will be found locked in the bridge, drunk. This, or similar complications, can lead to interesting side adventures.

Travellers may also encounter Ramon as a fellow passenger aboard an Acreidiet line starship. In this case, it is likely that he intends some act

Ramon Sanyarvo

Profession	Merchant/Pilot
Age	42
Terms	6
Money	Cr150

Skills : Astrogator 2, Electronics (computers) 2, Gun Combat (slug) 1, Gunner (turret) 1, Pilot (spacecraft) 4

STR: 8
DEX: 9
END: 4
INT: 7
EDU: 7
SOC: 3

of revenge – a hijacking, sabotage attempt, etc. He might approach the Travellers openly, offering to hire them to assist him in such an attempt (bankrolled by the line's competitors), or he may try to use them as dupes, asking them to deliver a package on board, a package that holds a bomb. On the other hand, it may be company officials that approach the Travellers, hiring them to keep an eye on Ramon while he travels.

Finally, adventures may be forced on the Travellers against their wishes when they are caught in the middle after Ramon makes his move.

As an added complication, the referee may choose to introduce the president of the line, Alfred Dunbar and/or his wife, to expand upon possible romantic/revenge aspects of the situation.

Dunbar is cold, business-like, and unfriendly, with a tendency towards jealousy that is easily triggered by attention to his wife. Leila, much younger than her husband, is restless, and tired of being neglected in favour of business. Either one could be a valuable friends (or a dangerous opponent) due to their influence in local business circles.

Possible interactions between Ramon, the Travellers, and the Dunbars should be explored by referees interested in providing an unusual adventure.

THE BLACK MARKET

There are those who think that laws are merely an inconvenience, and those who consider that bans, restrictions and prohibitions are nothing more than an excuse to put prices up. Wherever these two are found in the same place, a thriving black market is likely.

There are many reasons why an item might be banned, restricted, or otherwise not available through normal channels. Some items are dangerous, some offend local morality and some are simply hard to come by. The difficulty of sourcing such an item, and the price that has to be paid to get it, depends on a number of factors.

LAW LEVEL

Generally, though not universally, the higher a world's Law Level the more items will be illegal. Penalties are also in general more severe on high-law worlds. The *Traveller Core Rulebook* (pages 223-4) gives an indication of what weaponry and armour is legally available at any given Tech Level. From this it is possible to extrapolate local attitudes to many other items, though the referee should tailor this to the local society. It may be that a culture feels owning multiple automatic weapons is simply an indicator of adulthood, but despises drug use so much that simple painkillers are restricted.

As a general rule, laws are enacted either to protect people or the state – sometimes both. For example, restrictions on the possession of military grade weapons make it much harder for citizens to stage an armed insurrection, and may also limit the damage caused by neighbourhood disputes. A ban on fast ground cars benefits the state relatively little but may save lives.

Thus when deciding if an item is restricted or banned, the referee should consider how much harm could be done to others by irresponsible use, and whether widespread ownership poses a potential threat to the stability of society.

Social or Moral Unacceptability

Somethings are repugnant to society as a whole. Occasionally this attitude is genuinely incomprehensible to outsiders, as social or moral restrictions often have nothing to do with the amount of harm an item could do. For example, a world might ban clothing of a particular colour for religious reasons. These factors depend largely on local attitudes but also upon the

prevailing interstellar culture. A world that permits slavery when all its neighbours do not will usually have an interesting story associated with it; such a situation causes friction and must exist for a reason. Overall, social and moral factors must be imposed by the referee, using the information on page 221 of the *Traveller Core Rulebook* as a guide.

Control or Financial

Some items are restricted by the local government for the purpose of making money out of licenses, training courses, or the item itself. Alternatively, an item might restricted in order to keep the population in line. For example, if the people of a world need a particular medication to deal with atmospheric taint, then controlling it allows the price to be pushed up or access to be denied to those who do not conform. Control and financial restrictions vary from minor influence over the lawmaking process exerted by business and industrial groups, to cynical profiteering. There have been cases where even air and water were subject to government controls. This might be for good reasons, such as to prevent waste in an environment where replenishment is difficult, but it is possible that a particularly nasty government might expect its citizens to pay through the nose for the privilege of breathing.

Controls, Restrictions and Bans

The Law Level of a world indicates what items are outright illegal, but this does not necessarily mean they are prohibited to everyone. Some items require special permits, which usually come with social requirements. For example, a Law Level 8 world prohibits almost all weapons, but may allow members of a local defence volunteer formation to retain weapons in their own homes. The privilege of having an automatic weapon in a disarmed society is balanced by the obligation to use it in defence of that society. Likewise, a given world may almost completely ban powered vehicles but allow them to be owned and used by the emergency services. Partial restrictions make it easier to get items than a complete ban, as they can be stolen, 'misplaced' or otherwise redirected from lawful owners. Items that are totally prohibited are much harder to come by.

Some items may normally be permitted according to local Law Level, but require special licensing to obtain or use. In such a situation forgery or corruption of the licensing process might be more useful than stealing the item itself. It may be possible to simply walk into a shop and buy an item once the permit is in place, or to get one from an official supply depot. There are many ways to get around prohibitions and controls, in addition to the obvious routes of smuggling, stealing, or setting up an underground workshop and manufacturing prohibited items.

FINDING A SUPPLIER

It is exceedingly rare for a black-market shopping emporium to exist. More commonly, there will be multiple small-scale markets such as a shop owner who sells illegal drugs or guns 'under the counter' or an individual who can get items through a process he will not describe. Most illicit dealers have a limited range of goods, typically specialising in one area where they have contacts. Thus the Travellers may find their go-to for stolen military ammunition cannot help them get vehicles or pharmaceuticals. They may, however, know someone who can.

A more general contact will not, normally, maintain stock for sale. Instead, they arrange deals. The Travellers will have to set up a deal with such an individual but will not get goods directly from them. They may mysteriously find items on the back seat of their air/raft, or go to a shady backstreet meeting with nervous and well-armed criminals. These delivery agents are usually low-level criminals with no real knowledge of the larger operation and no clear links back to the dealer.

The first stage in buying or selling on the black market is to find a supplier (or buyer). This can be very easy in some areas where there is little effective law enforcement, and difficult in others. The Travellers will need to make discreet enquiries and a successful Average (8+) Streetwise check. The 'discreet' part is important here; black marketeers are unlikely to reveal themselves to a bunch of noisy offworld tourists flashing wads of cash and asking about illegal goods. Such activity will attract too much attention, so the majority of potential contacts will stay away. Those that are attracted will generally be of low importance and high stupidity.

To determine the type of contact the Travellers make, roll 2D and add the Effect of the Streetwise check on the Black Market Contacts table, with the following modifiers.

Very clumsy, blatant approach:	DM-4
Unplanned, careless approach:	DM-2
Discreet, well planned approach:	DM+2
Law Level:	DM- Law Level

Travellers may note it is easier to find dealers in illicit goods where few things are illegal. This is not a contradiction in terms; black market dealers can obtain hard-to-get items that are not actually illegal, just rare or found only in the hands of organisations like navies or corporations who only sell to high-end and governmental clients. Such items may not be illegal locally but are still impossible to get through normal channels.

Black Market Contacts

2D + Modifiers	Contact	Further Attempt DM
0-	No contacts made, and the Travellers may cause trouble for themselves. Local criminals may warn them off or attack, thinking they are police agents; law enforcement may take an interest in people so blatantly seeking illegal goods.	-2
1-3	Low-level black marketeer with limited supplies of minor items of a single type such as weapons, drugs, information or technological equipment. Maximum value of any item Cr1000.	+1
4-6	Mid-level black marketeer with good supplies of a single item type. Maximum item value Cr10000.	+2
7-9	High-level black marketeer with virtually unlimited supplies of a single item type (maximum value of any single item Cr100000) and access to limited amounts of other items (maximum value Cr10000).	+4
10-12	Major black marketeer capable of obtaining items of a single type of any value, and can also source any other type of item to a maximum value of Cr100000. This may include Ancients artefacts and other rare items.	+6
13+	The Travellers manage to locate an underworld merchant who can get more or less anything for a price.	-

For example, the Travellers are on a Law Level 9 world and desperately want weaponry. They seek a black marketeer and make careful enquires in a manner the referee thinks appropriate and not likely to attract undue attention. This is worth DM+2, and the Effect of their Streetwise check is +3, for a total of +5. However, Law Level 9 takes the DM down to -4. The Travellers roll 8 on 2D, modified to 4, and find themselves a mid-level black marketeer.

The referee decides this underground gun merchant has modest supplies of light automatic weapons and a couple of lasers, plus a larger amount of cheap handguns – some of which look to have been thrown together in

a blacksmith's shop. The Travellers are disappointed there are no fusion guns on sale, of course, but this is better than nothing. They ask about illegal information and drugs, but their contact has none for sale. He does, however, know a guy and provides some information for a fee. The referee decides this gives the Travellers DM+2 on attempts to find more black marketeers in the same area.

BUYING AND SELLING

Goods traded on the black market fall into categories which have more to do with the amount of trouble the possessor would get into for having them than their actual value. The degree of difficulty inherent in obtaining the item also pushes up the price.

Uncommon items may be simply difficult to obtain, or require paperwork that most people cannot get. By definition, any item offered on the black market is considered at least Uncommon. For example, items that are locally legal but hard to get or restricted to a segment of the population are defined as Uncommon.

Rare items are very hard to obtain but may not be illegal. Items heavily restricted or controlled, such as spares for grav vehicles that only the world's nobility are allowed to have, would be Rare – so would alien artefacts from a minor race whose items are not commonly traded but not subject to restrictions as such.

Ultra-Rare items are extremely hard to get either due to legal complications or their rarity. An example would be Ancients artefacts which are both very rare and also require special licensing.

Restricted items are subject to licensing or other means of keeping them out of the hands of the average citizen.

Illegal items are specifically banned to those who do not have a special license, which is hard to get or restricted to a small segment of the population. An example wold be military grade weapons restricted to the armed forces or special police units, or Ancients artefacts.

Highly Illegal items carry significant legal penalties for possession, such as a decade in prison. Examples include large military systems like tanks, large explosive devices, or the most illegal of drugs.

Extremely Illegal items generally carry penalties like life imprisonment or death. Examples include weapons of mass destruction.

BASE PRICE

The black market is heavily biased in favour of those with the right connections. This will rarely be the Travellers, so they will have to pay the asking price (which will be inflated) or accept a low price for what they are selling. If they can get a better deal elsewhere, they are welcome to try that.

The base price an item can be bought or sold for is determined by its legality and rarity. Note that an item can be Uncommon/Rare/Ultra-Rare and Restricted/Illegal/Highly Illegal/Extremely illegal. Both sets of modifiers then apply.

Base Pricing

Descriptor	Base Selling Price	Base Buying Price
Uncommon	125%	200%
Rare	150%	500%
Ultra-Rare	200%	1000%
Restricted	50%	150%
Illegal	25%	250%
Highly Illegal	15%	1000%
Extremely Illegal	5%	2500%

For example, the Travellers want to buy starship components they cannot find in port. These are not illegal or restricted but are uncommon, so have to be sourced by creative means. The Travellers' contact offers to sell them at a base price of 125% normal cost. The Travellers also have an ultra-rare alien fusion bomb for sale. Its rarity pushes the price up to 200% of normal market value, but the fact that the dealer could be shot out of hand for handling it takes this down to 5% of that figure. The Travellers are offered about half the weapon's nominal value.

Price Variance

The values above are base prices, which may be adjusted by good bargaining or market factors. To determine the final buying and selling price for items, Travellers should make an Average (8+) Broker or Persuade check, adding the Effect to a 2D roll on the Price Variance table.

Price Variance

2D + Effect	Final Selling Price	Final Buying Price
0-	20%	200%
1-2	40%	175%
3-4	60%	150%
5-6	80%	125%
7-8	100%	100%
9-10	110%	90%
11-12	120%	80%
13+	125%	70%

For example, the Travellers are trying to sell a collection of military vehicles they have... acquired. Base price for the lot is determined as MCr5. To find a final price the Travellers make a Broker check, getting an Effect of +2, and add this to a 2D roll that unfortunately comes up a 4. This is a total of 6, so the Travellers end up getting 80% of the base price, or MCr4. Turns out there is not much of a market for slightly used grav tanks on that world. They are welcome to take their arsenal offworld of course and seek another contact... if they can.

SPACE COMBAT PRIMER

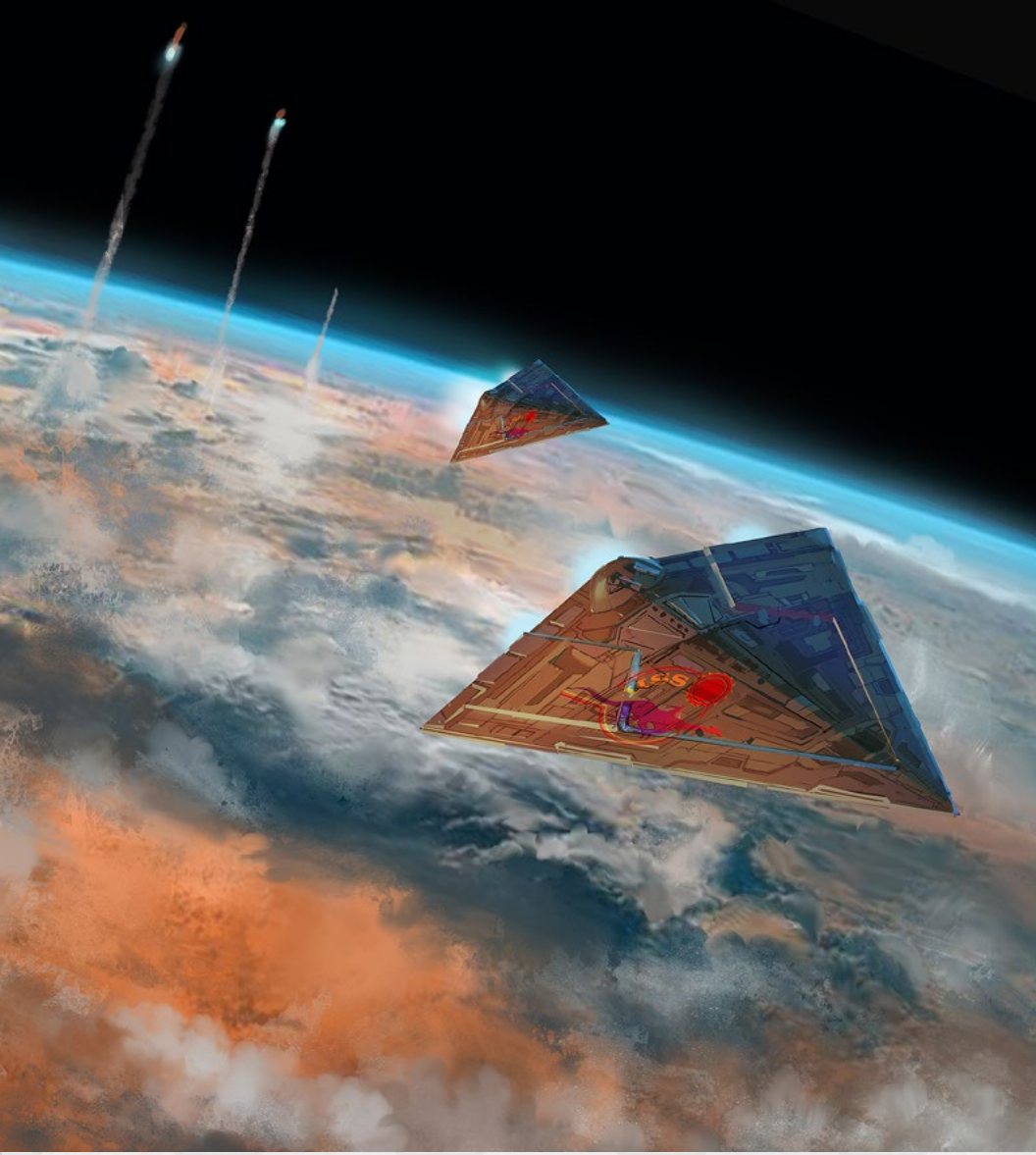
Space combat in Traveller is lightweight and cinematic. The rules convey the basics of movement, sensor detection, targeting and attack, without cumbersome detail. Space battles in movies and television shows often take their cue from aerial battles between fighter planes, including dogfighting techniques ill-suited to the realities of space. Space combat in Traveller is more akin to submarine warfare with opposing spacecraft striving to find each other in an abyssal environment and wreaking destruction upon one another once they do.

This article is designed to give a quick overview of space combat, including some items found in the *Traveller Core Rulebook*, *High Guard* and *Pirates of Drinax*. A narrative featuring the ill-fated flight of the Beowulf is interspersed to convey how various rules might play out dramatically in a gaming session.

> *Attention all crew: The Beowulf has completed wilderness refuelling operations and we are heading out to the jump point. Astrogation, please transmit our flight plan to the mainworld highport via tight beam on the standard frequency.*

Space combat begins with an encounter. The first thing that must be established is the initial range. Traveller classifies ranges starting with adjacent (about 1km, visible to the naked eye) to Distant (more than 50,000km) at which only minimal details can be made out even when using advanced sensors. Obtaining detailed information about another ship at Long or greater range is a bit like finding a needle in a haystack, a tiny spark of energy and movement seen across the vast reaches of space. Sensors and computers provide enough information to know approximately where other ships in the vicinity are but targeting and engaging them in combat takes expertise.

At minimum, the referee needs nothing more than the DMs for each sensor type but for more details, refer to the table on page 19 of *High Guard*. Civilian sensors have only lidar and radar. Each step up provides superior sensory detection, topping out at advanced sensors which include densitometers, jammers and neural activity sensors. If used at the appropriate ranges, advanced sensors can provide a complete picture of an opposing ship right down to how many crew members are aboard and how full the cargo hold is. The Sensor Target and Sensor Detail tables on page 150 of the *Traveller Core Rulebook* describe what each sensor type can ‘see’ at various distances.



Captain, we have a bogey originating from the deeps of the gas giant. Too far out of range to get much detail, but its heading is similar to ours. Minimal visual and thermal data but I'd say the ship is of relatively small size, under 1,000 tons, and giving off a heat signature much more powerful than our own. Probably military.

In some situations, only one of the two parties may locate the other for all or part of the encounter. Superior sensors, emissions absorption grids

and stealth technology provide a significant edge. A ship with superior sensors and stealth technology can easily achieve surprise on a less well-equipped spacecraft.

In a typical encounter, both participants detect each other at the ranges shown in the Range Bands table on page 151 of the *Traveller Core Rulebook*. Ship's sensors are assumed to be running automatically, giving basic information about the ship's surroundings: nearby spacecraft, space stations, orbital starports, asteroids and large debris. For more specific information, the sensor operator must make an Average (8+) Electronics (sensors) check (INT). Checks are modified by several factors including the following:

- Sensor type: Refer to the table on page 19 of *High Guard* for the DM of each sensor type. The Travellers incur DM-4 for basic sensors all the way up to DM+2 for advanced
- Hull features: Some ships have hulls with special equipment and coatings that provide a negative DM to sensor checks. Emissions absorption grids, stealth and superior stealth are described on pages 12-13 of *High Guard*. Conversely, equipment such as extended arrays increase the signature of a ship, making it easier to detect.
- Transponders: Starships operating in the Imperium are expected to run transponders at all times, transmitting the ship's identity for all to see and applying DM+4 to sensor checks as described on page 146 of the *Traveller Core Rulebook*. Ship captains may shut down the transponder when threatened by a potentially hostile spacecraft or when travelling in dangerous territory, even though technically it may be illegal to do so. Furthermore, running without one's transponder carries dangers all its own since the ship might be mistaken for a pirate by system defence forces.

A ship cannot fire upon an opposing ship it has not yet detected. However, once the ship is found, detection is maintained for the duration of combat unless the referee determines otherwise. Extenuating circumstances such as the ship passing through a magnetic field, a dense asteroid belt, or shutting down all of its systems to reduce its signature may optionally require a subsequent sensor check to relocate a ship.

A typical battle is joined after opposing ships locate and target one another, but when only one combatant can find the other, space combat becomes an extremely one-sided affair. Sensory detection is key. A masked or stealth ship with superior sensors can enjoy multiple rounds of surprise, attacking a target with impunity.

> *She's cut the distance between us to 30,000 klicks, captain. Matching our vector and approaching at about 4Gs – possibly a patrol corvette. Shall I hail her?*

LIGHTING THE TORCH

Finding a ship before it can find you provides a huge tactical advantage. The first ship to acquire another with its sensors effectively has surprise if not detected by the other. However, once combat begins, surprise is quickly lost and it becomes much easier for the opposing ship to find the attacker.

The referee may optionally determine that once one side attacks the other, surprise is lost and the besieged ship automatically detects the attacker. Use of weapons, active sensors and radio communications creates an energy signature that makes it considerably easier to find an attacking ship.

Ships with emissions absorption grids and stealth are difficult to find even after they fire their weapons. Apply DM+2 for subsequent Electronics (sensors) checks but retain negative DMs associated with stealth technology.

Alternatively, refer to the excellent article, 'Sensor Operations,' in *Journal of the Traveller's Aid Society #4*, which provides a whole slew of new and highly usable sensor rules.

LET THE BATTLE BEGIN

Once both combatants have located each other with sensors and the battle has begun, determine who has the Initiative. Determining Initiative is a two-step process, the first of which is performed by having each side make an Average (8+) Tactics (naval) check. Then roll 2D for each ship, adding the pilot's Pilot skill, the ship's maximum Thrust and the Effect of the Tactics (naval) check. The ship with the highest score has the Initiative.

After Initiative is determined it is time to move to the heart of the space combat sequence which consists of six-minute rounds divided into the following steps:

- Manoeuvre
- Attack
- Action

MANOEUVRING

The Manoeuvre Step is all about a ship's Thrust score. If a ship has little Thrust, this step is simple to assess. However, if there is a fast ship involved in the battle, several choices must be made.

In order of Initiative score, determine how much Thrust is used for acceleration. See the Movement rules on pages 155-156 of the *Traveller Core Rulebook* for a detailed description. Selecting how much Thrust to

use is different than selecting direction. The combatants must negotiate direction to prevent the lower Initiative score ship from gaining an unfair advantage. For example, the combatant with the lower Initiative may not suddenly turn tail and close the distance on the ship with the higher Initiative score simply because it goes second in Initiative order. The ship with the higher score gets the option to turn as well, maintaining the desired distance limited by the amount of Thrust it has applied to acceleration. More often than not, both ships are heading in the same direction with one pursuing the other.

The pilot may aid gunners by positioning the ship for optimal firing angles, dock with an opposing ship if the gap has been narrowed to Adjacent, or perform Evasive Action against attacks if additional Thrust remains. Note that only one of the above actions may be selected by the pilot each round.

She's not responding to our comms. Gunners to stations. She's cut distance to 25,000km and is targeting us. Comms, transmit Signal GK.

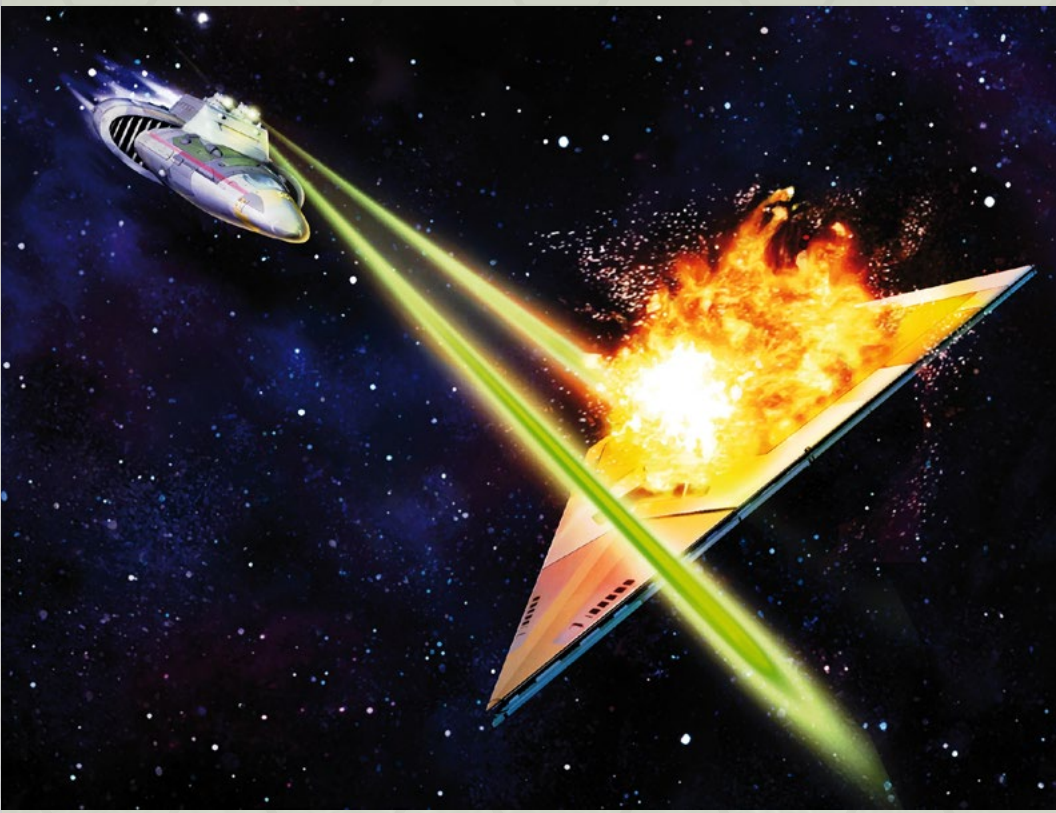
THE GREAT ESCAPE

Making a break for jump point does not necessarily mean a ship has to accelerate to the halfway point, turn around and decelerate to zero by the time the 100-diameter limit is reached. A ship may opt to accelerate from close orbit all the way to the jump point, entering jump space with a high delta-V. Velocity is preserved during a jump so when the ship comes out a week later, it is going the same speed it was going before it entered jump. A ship performing this manoeuvre can get to a jump point much faster than one attempting to achieve a full stop at 100 diameters.

There are two ways to determine how long it takes a ship to cover the desired distance. The first method uses the following equation:

$$\text{Seconds of Travel Time} = \sqrt{\frac{\text{Distance x 1000}}{\text{Thrust x 9.81 x 0.5}}}$$

For the sake of simplicity, the referee may simply determine the distance to the jump point and then add the escaping ship's thrust to a running total each round.. One point of thrust from a full stop covers approximately 2,000km, so after two rounds, a ship with continuous Thrust 1 covers 4,000km. After three rounds, it covers 6,000km and so on. With a decent head start, even a free trader might make it to the jump point and get out of a system before its pursuers can get close enough to attack.



ATTACK

The ship's gunners have analysed the sensor data, determined where the opposing ship is – or will be – and it is time to fire! Weapons are fired by gunners with the exception of fixed-mount weapons which may be fired by the pilot. Turret weapons may fire in all arcs whilst fixed-mount weapons must be facing the target.

For each weapon used to attack, make an Average (8+) Gunner (DEX) check, adding range and other DMs described in the *Traveller Core Rulebook*. Note that the Attack step has two phases, the Attack phase and Reactions phase. Reactions include:

- Evasive Action, which enables a ship to dodge incoming attacks with unspent Thrust.
- Point Defence, in which a ship's lasers shoot down enemy missiles instead of attacking.
- Disperse Sand, in which sandcasters are fired in order to reduce laser damage.

A good rule of thumb is to flip to the Reaction phase each time an attack is made.

> *We are taking fire! Repeat! We are taking fire. Taking evasive action. Turret one, go to point defence. Turret two, return fire!*

Determine damage as you would in ground combat, adding the effect of the Gunner check and subtracting armour from the total. Determine Critical Hit location and damage for all hits with an Effect of 6 or higher.

When assessing damage, consider setting up a grid to keep track of Hull points. Whilst hits with an Effect of six or more are automatic critical hits, ships also incur a structural critical hit for every 10% of the Hull consumed by damage. For example, an undamaged Type-A free trader has 80 Hull points at the start of combat, as shown on the Free Trader Hull table:

Free Trader Hull

Hull Points Remaining	Structural Critical Hits
80	0
72	1
64	2
56	3
48	4
40	5
32	6
24	7
16	8
8	9

Every eight points of damage taken incurs a structural Critical Hit. The grid can be used to keep track of them.

Missile damage is determined differently and is resolved after the Actions Step to provide an opportunity for point defence and countermeasures. Refer to Missile Combat in the *Traveller Core Rulebook* for details.

CALLED SHOTS

Ships at a range of Short or less may attempt to make called shots with direct-fire weapons (not missiles or torpedoes). The attacker nominates the location they wish to target, and makes an attack roll with DM-2. If the attack is successful and scores a critical hit, the attacker may choose which location is hit.

ACTIONS

The spacecraft have moved into position and battle has been joined. Up to this point, all of the actions in the Space Combat sequence have been performed by the pilot and gunners. The Actions step brings the rest of the crew into the fight.

The captain may make a Leadership check to increase a ship's Initiative for the next round only, adding the Effect of the Leadership check to Initiative.

> *Astrogation, plot a course for early jump. Engineering personnel, report for damage control. The jump drive has taken a hit. Sensors, break that lock or we're done for! We have to make a run for jump point.*

The engineer may perform a number of actions during this step: shutting down systems for power conservation, repairing damaged systems, overloading drives, or engaging the jump drive if the astrogator has provided a course. Note that the engineer gets only one action per turn and must choose what to do.

The sensor operator detected enemy combatants but now the ships are in battle, they may enhance the ship's combat performance by obtaining a sensor lock, which greatly enhances the gunners' ability to hit an opposing ship, or performing electronic warfare, which jams communications. Note that a sensor operator may also use the electronic warfare action to break sensor locks made by the opposing ship. Just like the engineer, the sensor operator may perform one of the above actions per round.

If one ship has disabled another or closed the gap to Adjacent range and the pilot has performed a successful docking action during the Manoeuvre step, marines may perform boarding actions. Boarding actions may be abstracted using the rules on page 163 of the *Traveller Core Rulebook* or played out using the combat rules.

Finally, crew members may be reassigned to another task aboard the ship, provided they have not already performed tasks during the combat round. If a Traveller has already performed a task during the round, it requires one full round for the reassignment to occur.

Missile combat is resolved after targeted ships have the opportunity to perform point defence or use countermeasures. Note that the Gunner skill is not used when determining whether a missile hits its target. After all point defence turrets and countermeasures have had an opportunity to remove missiles from a salvo, the number of remaining missiles is used as the DM for the attack roll. Roll damage as normal, removing armour from the total and multiply the total by the Effect of the attack roll.

CLOSE RANGE

When the range is closed to Close or Adjacent, dogfighting rules are applied. Sensor information at this range is extremely detailed and combatants enter an intense and probably brief bout of combat that usually ends up with one ship or the other being subdued. Combat rounds are reduced from six minutes in duration to six seconds and dogfighting modifiers are applied.

This is Free Trader Beowulf, calling anyone... Mayday, Mayday... we are under attack... main drive is gone... turret number one not responding... Mayday!