TRAVELLER

CREDITS

MONGOOSE
PUBLISHING

CONTENTS

CORDILLON: BOLD NEW WORLD

Terraforming is an ignored science in much of the Imperium. With its mastery of life support systems and artificial environments on high Tech Level worlds, the Imperium has essentially obsoleted the notion of transforming an inhospitable planet into an 'Earth-like' paradise. When you can hollow out a planetoid, pressurise it, fill it with a breathable atmosphere, and spin it to provide a tolerable gravity (or install grav plates for that matter), the herculean task of transforming an entire planet becomes moot.

Despite all this, terraforming projects are still sometimes undertaken. Planets designated for terraforming usually have several features that make the path a little less steep. The presence of a planetary magnetic field, water, the building blocks of a breathable atmosphere (or at least a cost-effective way to transport those building blocks to the planet) and a stable star are all important factors.

But the key factor when deciding to terraform a planet is not its physical makeup or chemistry at all. It is embedded in the hopes and dreams of the sentient species that wants to live there.

Humans have terraformed planets in an attempt to recreate Terra, Vland, Zhdant, and other habitable worlds they have come from. The Aslan terraform (Kusyuform) out of an intense racial desire not to own just any land but land with lush hunting grounds. The Vargr do it out of a desire to compete with one another for supremacy. Similar reasons can be found for other starfaring races.

Making the monumental decision to transform an entire world is too tied up in culture, politics, history, and other circumstances to boil it down to a few reasons. Suffice to say, sometimes terraforming is deemed the right thing to do no matter how illogical, expensive, or impossible it might seem.

There are many reasons that officials from the high-tech desert world of Albe (Trojan Reach 2211 A540A98-E) and the Imperium have combined their efforts and resources to terraform the planet Cordillon (Trojan Reach 2411 C431210-B).

- Preserve the stability of Albe, a key world on the Imperial fringe beset by overpopulation
- Entice colonists to leave the relative safety of an established (if crowded) world with the promise of a much more appealing one
- Establish another viable link in the region's trade routes
- Provide work for prospective settlers – there is no infrastructure project quite like a terraforming project!

Cordillon was named for its plethora of 'cordillera', an ancient Terran word from the Spanish language for long chains of mountain ranges. Cordillon's ranges cross, collapse together, or combine in semi-parallel courses all over the surface of the planet. The small world has 31 tectonic plates; typically a high degree of seismic activity and volcanism would be expected, but Cordillon does not exhibit a high degree of either. Its two currently active volcanos have such elevated peaks that most of their ejecta goes straight into the vacuum of space, reclaimed by Cordillon's gravity over time.

Cordillon has no oceans and only one large sea called the Caratossidis, thought to be named for an ancient Terran explorer whose people colonised the planet millennia ago but the true origins of the name are lost in antiquity. In addition, the planet has several lakes and moderately sized river systems. Geological surveys have discovered that beneath the rocky Heriotza Plains in the southern hemisphere there are thousands of aquifers etched in the planet's crust in highly complex patterns that make their fluids difficult to extract. The concave topography of the region coupled with its potential water resources make it a frequent topic of discussion in terraforming plans with the idea being that a second sea could be constructed in the basin by somehow 'liberating' the water in the aquifers.

It is thought that Cordillon once had a thin or possibly standard atmosphere but that a glitch or pause in its magnetic field several hundred million years ago allowed charged particles from Bizitza, its orange main sequence

star, to strip away much of the atmosphere. Planetologists have named this event the Erretzea. Despite this event and the resultant ecological catastrophe, the planet's remaining atmospheric makeup is an attractive one, with healthy amounts of nitrogen and oxygen, and a low amount of carbon dioxide and methane. The problem is not its composition. It is that there simply is not *enough* of it.

Cordillon is 6,949 km in diameter and has an axial tilt of 18.9 degrees. Because of its very thin atmosphere, it has a broad range of temperatures, averaging 20-25°C in the temperate zones during the summers, dropping to –40°C in the winter from the poles to the tropics. The planet's day is 65.7 standard hours long. Cordillon orbits Bizitza rapidly, giving it a year of 61.2 standard days.

Despite its less than hospitable environment, Cordillon hosts several native life forms, none of which are intelligent. Its plant life is rather sparse but the planet does feature more than a dozen hardy grasses, most of which grow in broad plains next to or near its bodies of water. Somewhat further removed from water are hardier species including unique red and orange 'cactuses'. Calling this species a cactus is a misnomer but its familiar appearance to Terran cactuses could not be ignored and the name stuck. It differs from a cactus in that it contains little water and has several adaptations to deal with increased exposure to stellar radiation.

In addition to its grasses, cactuses and other plant life, Cordillon also has hundreds of molds and microbial species, most of which live in its sea,

CORDILLON

C431210-C

THE CARATOSSIDIS

HERIOTZA PLAINS

1 hex = 623.42 km

Rocky landscape

Water

Cordillera

5
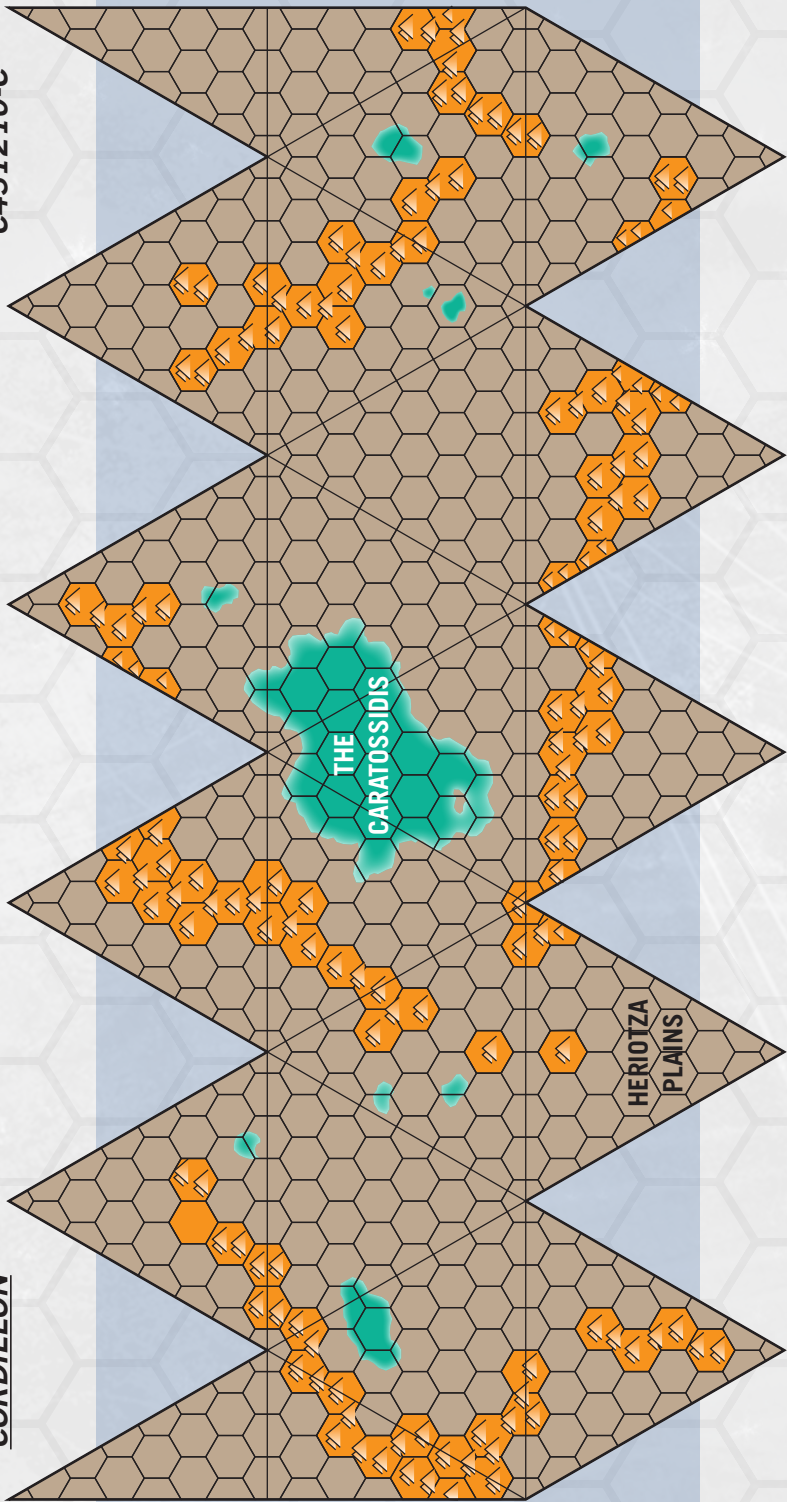
lakes and rivers, but others subsist in moist underpinnings of rocks in the plains and basins. Humans emigrating to Cordillon must be inoculated before coming to the planet or risk suffering from several fatal pulmonary diseases brought on by inhaling mould spores or viruses native to the world.

Paleontological studies performed by the Scout Service have revealed that Cordillon once hosted a bountiful biosphere, all of which was destroyed when the Erretzea struck. The more ambitious among the terraforming crowd dream of using recovered DNA to reconstitute that biosphere once the planet has acquired more water and a thicker atmosphere. With plans to do just that, there is a strict quarantine on introducing non-native life forms to the planet.

The terraforming of Cordillon begun decades ago and its effects have already been felt but there are aggressive plans afoot to accelerate the process with the intention of raising the hydrosphere to 20% and the atmosphere from 'very thin' to 'thin' over the course of the next 25-30 years. A 'conveyor belt' of robotic spacecraft is being assembled to tow icy rock balls from the system's two planetoid belts to drop into Cordillon's basins. Not only will these asteroid 'bombs' bring more water to the planet but the explosions from dropping them will break up chemical compounds in the rocky surface and thicken the atmosphere over time. Extensive atmospheric factories are being built that will process imported nitrogen and oxygen, and disseminate them through massive vent systems. A great deal of land has been reserved or declared temporarily uninhabitable due to the dangers these projects pose. Many prospective colonists are suspicious of them, some claiming that they are merely a front to enable the Imperium to keep all the choice land for themselves. Dozens of unsanctioned settlements have been built on the periphery of these danger zones by intransigent colonists who refuse to be told where they can and cannot live.

Hundreds of companies and megacorporations have signed contracts with Albe and the Imperium to provide all manner of services and products to the colonists and their fledgling civilisation. The Albian and Imperial governments claim that the only way the Cordillonian Dream can happen in short order is by using established corporations. Waiting for local industry to germinate will take decades if not a century. Would-be colonial entrepreneurs have cried foul, complaining they are being deliberately shut out of the planet's future, some going so far to say that colonists are being set up to be the designated slave labour force of Cordillon. Despite their complaints, companies like GeDeCo seem to plant another flag on the planet each day, claiming one industrial endeavour after another.

GeDeCo's primary contract is to build a Class B orbital starport, a project expected to take most of a decade to become operational. In a conciliatory gesture, three quarters of the construction and development jobs have been given to colonists.
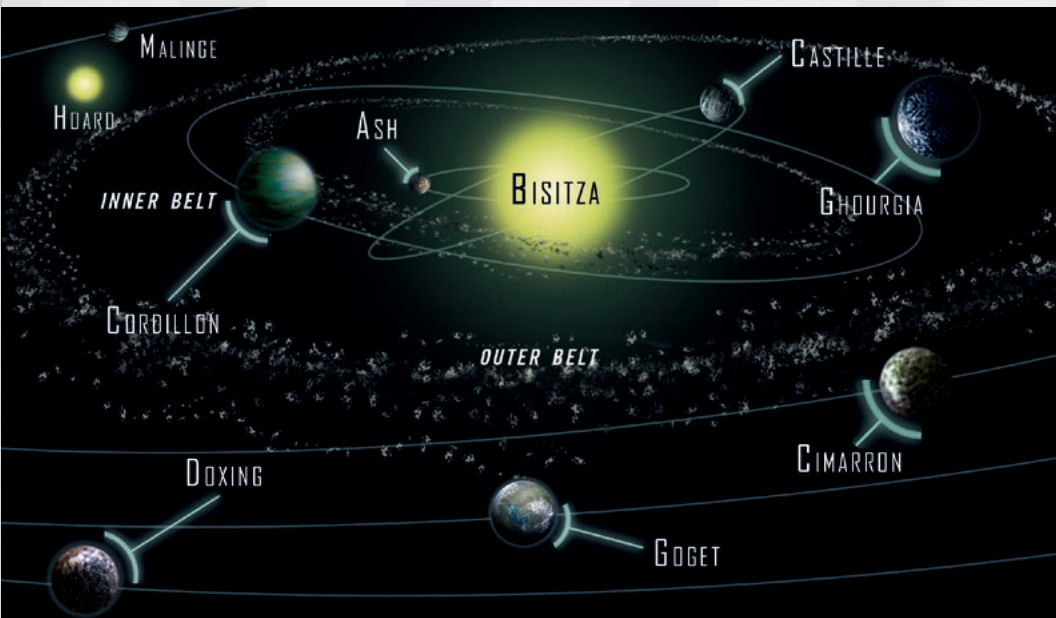
Cordillon System

The Cordillon system is home to seven additional terrestrial planets (all airless rock balls), two planetoid belts, and two gas giants, each of which has several moons. Sitting on the periphery of the Imperium, Cordillon has only been subjected to a Level-II Scout Service survey. The scouts recorded the basics of each planetary body in the system, but for the most part no one knows what kind of resources are present on its many worlds.

Hoard, the system's large gas giant, is a super jovian with roughly four times the mass of Terra's Jupiter. Its immense gravitational pull and magnetic field make it dangerous for wilderness refuelling of all but the stoutest of starships.

The system's two planetoid belts are currently being dredged for iceballs to drop on Cordillon but increased traffic in these zones has attracted a fledgling belter community, eager to strike gold, platinum, and lanthanum in the vacuum of the belts. The community park their seeker starships on one of the larger planetoids and a nascent city has sprung up in the silicate ball's interior.

CORDILLON SYSTEM DETAILS

Position	Satellite	Name	UWP
Primary	–	Bizitza	K1 V
0	–	Ash	X200000-0
1	–	Castille	X300000-0
2	–	Inner Belt	X000000-0
3	–	Cordillon	C431210-C
–	1	Watchtower	G100160-C
–	15	Pinzen	XS00000-0
4	–	Ghourgia	X300000-0
5	–	Outer Belt	G000160-C
6	–	Cimarron	Small Gas Giant
–	0	Ring System	YR00000-0
–	1	Ingot	X100000-0
–	2	Byz	X200000-0
–	3	Dryb	XS00000-0
7	–	Goget	X200000-0
8	–	Doxing	X501000-0
–	1	Prime	X100000-0
9	–	Malinge	X300000-0
10	–	Hoard	Large Gas Giant
–	1	Hoard–0	X100000-0
–	3	Hoard–1	X100000-0
–	6	Hoard–2	X200000-0
–	10	Hoard–3	X100000-0
–	12	Hoard–4	X501000-0
–	16	Hoard–5	X300000-0
–	22	Hoard–6	XS00000-0
–	30	Hoard–7	X400000-0
11	–	Bakartik	X200000-0

HIGH GUARD

JUMP DRIVE OPERATIONS

The jump drive is the only known means of faster-than-light (FTL) travel in the Third Imperium universe. It is not well understood by most of its users, however, and jump drive operations are not wholly predictable. It is widely theorised that the Ancients and possibly other species mastered jump technology or at least reached a level of expertise whereby they could transcend the limitations encountered by all major races of Charted Space.

For all the races of Charted Space, there are certain limitations on the use of jump drive which seem difficult or perhaps even impossible to bypass. A jump takes roughly one week and enables a ship to transit from one point to another 1-6 parsecs away depending on the jump drive used. This 'jump-six barrier' is the subject of a great deal of risky experimentation in some cultures; others have accepted it as immutable.

It may be that everything known about jump travel is wrong; it is certain that not everything is known. However, jump technology is sufficiently mature as to allow mostly-reliable travel between star systems. In short, the races of Charted Space know how to build a jump drive and how to use it to reach another star system. Many details of exactly how it works are vague, and sometimes the drive will produce unusual results.

This indicates how little is really understood about the jump drive. If an experiment is performed the same way under the same conditions, the outcome should be the same each time – within the bounds of experimental error of course. When the same actions sometimes produce different results, even though there is no indication anything has changed, it is clear that there are additional parameters not being considered.

MAKING A JUMP

The first requirement – other than having a working jump drive – to make a jump is what is often known as a 'jump plot'. This is a highly complex set of dynamic equations taking into account the vessel's size and mass, local gravity conditions, and the relative positions of the start and end points of the jump, both at time of entry and expected time of arrival. Once the plot is ready it is fed into the jump drive, which is brought up to full power and engaged. The drive is needed to enter jump space, to create the field that protects the ship there, and finally to control the collapse of the jump field in a manner that allows safe re-entry to normal-space.

THE JUMP PLOT

Plots can be created well ahead of time, but degrade for reasons that are only partially understood. It is generally accepted that the relative movement of objects in the universe – planets in their orbits and asteroidal debris in the target or departure system – will render a plot less accurate over time. What continues to puzzle scientists is that even building in a predicitive model for these variables does not prevent a plot from degrading over time. It may be that this is simply because no model can possibly include every rock or dust cloud across a couple of parsecs, but there are those who claim other factors are at work.

For this reason, pre-prepared jump plots – called 'course tapes' for reasons now lost in antiquity – are much less accurate than a plot created by a ship's astrogator just before jump entry, though it is possible to prepare a 'plot estimate' and add the last variables just before jumping. This practice is common aboard ships that expect to make a particular jump, and part-prepared jump plots can be obtained from some starports. This service is often provided free by Class A and B ports but unlikely to be available elsewhere. The port benefits from greater control over exactly where in the system ships jump from, and often has an agreement with nearby destinations about emergence points. A ship using a part-prepared plot cannot falsify its destination, which is beneficial for general security and reduction of illicit activity.

Preparing a jump plot takes 1Dx10 minutes and requires an Easy (4+) Astrogator check with a negative DM equal to the jump number in parsecs. Using a part-prepared plot reduces the difficulty to Simple (2+) and time

to finalise the plot to 1Dx2 minutes. Naval ships with multiple astrogators often begin preparing jump plots to likely destinations as soon as they arrive in a system, and any ship expecting combat will have an emergency jump plot kept at a near-final state. This requires constant updates and absorbs the attention of an astrogator, but can save a ship that is taking a pounding.

READYING THE DRIVE

Entry into jumpspace requires an enormous amount of energy. This is usually obtained by burning a large quantity of fuel very rapidly in a high-yield power system. Such a power generation device is normally part of the jump drive fitted to a starship and is considered a drive component rather than part of the ship's power plant. The jump power unit is unsuited to the task of powering shipboard systems in the long term, but can be cannibalised to repair a damaged power plant at the price of making the jump drive inoperable.

There are alternatives to the high-yield power plant. Some ships have capacitors or batteries that can be used to power a jump. Ever since the development of the black globe generator, the tactic of using energy gained from incoming fire hitting the globe to power a jump has been used – in this case the ship takes fire until its capacitors are full enough to make an emergency jump. The globe has to be dropped to jump however, so there is a chance of the jump field being disrupted by further hits with catastrophic results.

Despite the risks this is a viable strategy for a ship that cannot otherwise escape. A theoretical variant on this gambit is to use a black globe to fill its capacitors using a star's normal energy output, then move clear of the star's gravity well and make a jump. It is not known if this method has been used successfully.

However the energy is obtained, there must be sufficient to operate the drive. A power loss during jump initiation can be severely dangerous to the vessel if the crew are very lucky – more commonly it is instantly fatal. This is another reason why jumping under fire is risky.

To prepare a jump, the drive is brought online and held in a 'warm' or 'pre-initiation' stage. This uses energy from the ship's power plant and does not consume jump fuel, but the drive's 'warm' status is detectable to other vessels. A drive can be held in the warm state indefinitely but this increases wear and therefore maintenance costs. Most ship therefore run with their jump drive 'cold' most of the time. Warming the drive, more correctly termed 'advancing to pre-initiation status' takes 2Dx5 minutes. The multiplier can be reduced by the Effect of an Average (8+) Engineer (J-drive) check, to a minimum of 2D minutes.

If circumstances require it, a cold jump drive can be crash-started in 1D minutes if a Difficult (10+) Engineer (J-drive) check is made. Failure takes the drive offline for 3D minutes, after which another attempt can be made.

When the ship is ready to jump, the drive is brought to the 'hot' or 'initiation ready' state. This does not consume fuel but can only be maintained for 2D minutes. The ship must initiate jump during this time or abort. A ship can be held 'hot' for an additional 2D minutes if the engineer makes an Average (8+) check. Failure results in the drive suffering increased wear and undergoing an emergency shutdown. At the very least this requires 2Dx10 minutes to recalibrate and restart the drive, and on a straight 2D roll of 12 the drive also suffers a critical hit of D3 Severity.

When the ship is ready to jump, the process is initiated with an Engineer check, modified by the Effect of the Astrogator check. The jump-entry process takes 1Dx10 minutes, though most of this is spent powering up the ship's jump field projectors and ensuring their output matches the requirements of the jump plot. Actual entry to jump is almost instantaneous, and the initiation process can be brought down considerably.

Jump Checks

Type of Jump	Engineer Check	Time
Normal	Easy (4+)	1Dx10 minutes
Expedited	Routine (6+)	1Dx5 minutes
Rushed	Average (8+)	1Dx3 minutes
Emergency	Difficult (10+)	1Dx2 minutes
Crash	Very Difficult (12+)	1D minutes

If this Engineer check is failed a misjump will occur.

If the jump is successful, the vessel will spend approximately 168 hours (1 week) in total isolation in jump space before returning to the normal universe. Variance is normally plus or minus 12-24 hours, leading to the Travellers' adage that 'more than a day and it's not okay' – a ship that comes out of jump too early or too late has usually misjumped.

The emergence point can also vary. A good 1-parsec jump will bring the vessel out within 3,000 km of the intended emergence point. Variance increases with jump distance, though the exact relationship is not clear. It is probable that the degree of variance is dependent on the square of the jump distance – so a good 6-parsec jump will have a maximum variance of 108,000 km, 36 times as much as a 1-parsec jump. This is a very small error given the distances involved, but can be significant. It is probable that more advanced jump drives will reduce variance or eliminate it entirely.

The laws of conservation of mass and energy continue to operate on ships which have jumped; when a ship exits jump space it retains the speed and direction that it had when it jumped. Many ships, especially commercial vessels, reduce their velocity to zero before jumping for safety reasons. However, a considerable amount of time can be shaved off a trip

by accelerating all the way to the jump point and plotting a jump that brings the vessel out heading for the target world. It is necessary to leave enough margin to slow down, which makes jump variance a hazard on very tightly plotted trips.

GRAVITY AND OTHER EFFECTS

Although a ship in jump space is not affected by the outside universe in any detectable way, gravity has significant effects on the operation of a jump drive. The general rule of thumb for starship crews is that attempting to jump from within 100 diameters of a planet or star is highly dangerous and doing so from within 10 diameters is suicide.

In fact, the diameter of an object is far less important than its gravitational forces, and how those forces interact with those of other bodies. A large but not very dense object will have a smaller gravitational force than a small but dense object – 100 diameters of a black hole is not very far at all, but its jump-hazard radius is much larger. However, the 100-diameter rule is a useful guide under most circumstances.

Attempting to jump within 100 diameters of a typical planet imposes DM-4 on the Engineer check to make a safe jump entry. Jumping within 10 diameters imposes DM-12 and virtually guarantees a misjump. All known attempts to use a jump drive on the surface of a planet or moon have resulted in disaster. At the least the jump drive is destroyed, sometimes in an explosion that takes the surrounding craft with it. There is no record of anything entering jump in this manner, though there are rumours of 'jump platforms' built by advanced species that do allow it. This is more than likely a wild Travellers' tale.

More intense gravity fields such as those associated with stars and large gas giants can completely inhibit the use of a jump drive, as can areas of complex gravitational interaction. For example, the net gravitational force experienced by an object at a Lagrange point may be zero, but it is still within multiple gravity wells. The fact that a ship would not drift towards a gravity source does not mean it is safe to jump from that point.

To achieve a safe jump it is necessary to move to a position where net gravitational force has fallen below the threshold where it can affect the jump drive. There may actually not be a lower limit as such, and this could be the reason for much of the jump variance experienced by Travellers – the gravitational forces on a ship may not be enough to cause a misjump but are sufficient to throw the plot off slightly. The only way to avoid this would be to travel far from source of gravitational forces – in other words to go halfway to the next star system before jumping.

It is not possible to jump into or through an area of high gravitation or significant gravitational interactions. Such areas are said to be 'jump masked' and require a normal-space transit from the nearest safe emergence point. A jump plotted into or through such an area will result

in precipitation at or close to the 100-diameter limit. A badly calculated plot that intersects the gravitational masking zone of an outsystem gas giant will result in the ship being precipitated out of jump there rather than at the destination – but the jump will still take the normal one week plus or minus whatever variance is experienced.

A vessel that loses power to its jump drive whilst in jump space is doomed. Minor fluctuations can cause 'jump space intrusions' as the jump field partially collapses. These can have profound physical and psychological effects on personnel, and cause serious damage to a ship. A ship that has enough fuel or power to enter jump but not enough to maintain its jump field will experience a collapse of the jump field. Presumably the ship will be destroyed; no-one has survived to say otherwise.

The jump plot can be thrown off by problems with the drive or damage from weapons fire or other sources taken whilst the field is forming. Being hit with the jump drive active can result in a catastrophic energy release and the destruction of the ship. Even if it does not, the damage suffered can disrupt the jump field and cause a gradual collapse during transit. To stabilise the jump field, the ship's engineer can make a Difficult (10+) Engineer (J-drive) check, with success indicating the jump has not been significantly affected.

TRACKING AND DETECTING JUMPS

The arrival of a ship in a star system is indicated by a 'jump flash' or 'jump flare' from the collapsing jump field and a 'gravity wave' caused by the fact a mass is present which was not previously there. These phenomena are normally obvious to a ship with functioning sensors, out to about 300,000 km, requiring only a Routine (6+) Electronics (sensors) check (EDU) or (INT). Consult the Jump Detection table for the difficulty of detecting a ship at greater distances. Beyond this distance the arrival might not be picked up.

Jump Detection

Distance in KM	Difficulty
0-300 000	Routine (6+)
300 001-3 000 000	Average (8+)
3 000 001- 30 000 000	Difficult (10+)
30 000 001-300 000 000	Very Difficult (12+)
300 000 000+	Formidable (14+)

Detection beyond 300 000 000 km is unlikely without specialised equipment. Craft trying to be stealthy may plot their arrival to occur
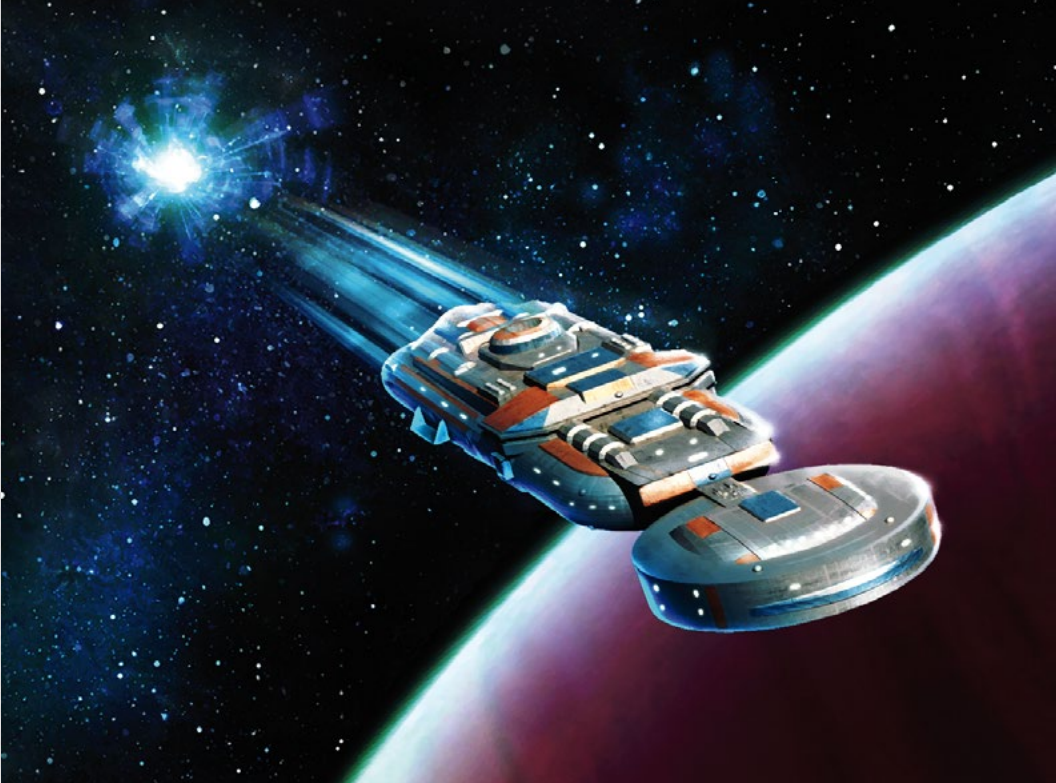
behind a moon or planet, screening the emergence from sensors whose location is known. There is always a chance of being spotted by a mobile patrol, however.

The size of a vessel also affects how easy it is to detect.

Jump Detection Modifiers

Displacement Tons	DM to Check
100-999	+0
1,000-9,999	+2
10,000-99,999	+4
100,000+	+6

TRACKING AND PREDICTING JUMPS

The easiest way to predict a ship's destination is to require vessels to use part-prepared jump plots. This has the advantage that all ships from a particular port will arrive at a specific arrival point. The 'point' in this case

is a volume of space defined by standard jump variance. A ship claiming to be from that port which does not arrive in the expected emergence zone will attract attention, though the reasons may be entirely innocent.

If the ship has calculated its own jump plot, its destination has to be predicted using a mix of sensor data and detective work. The vessel's known capabilities will rule out some destinations, and destinations that are masked or otherwise not available can also be ignored. If the vessel is presumed to be headed for an inhabited world, its destination can be deduced with a reasonable chance of success.

If the destination must be determined from jump parameters alone, the task is much harder. The emissions of the drive must be analysed to gain an indication of the destination, giving a result that might be anything but precise. Matching parameters against partial plots for known worlds within reach can give a high-confidence result, but the target could have jumped to any point of any star system within range.

Parameter Matching requires 3D minutes per world or volume of space. An Average (8+) Astrogator check is made, and if successful the analysis indicates if there is a match or not. This will confirm if the target ship jumped to a particular world or indicate that it did not, but yields no other information.

Full Analysis requires 2Dx10 minutes. An Average (8+) Astrogator check must be made. If it is failed, the analysis produces no useful results. If it is successful, roll 2D and add the Effect of the check.

Jump Tracking

2D + Effect	Analysis Result
2-4	Destination system, probable
5-8	Destination system, certain
9-12	Destination system, certain; specific destination probable
13+	Destination system, certain; specific destination certain

On a probable result, the referee should secretly roll 2D. On 9+ the analysis was wrong and a false conclusion has been reached. On a certain result the referee should inform the Travellers of the destination but may still wish to make a secret roll just to keep them wondering if they are about to embark on a wild goose chase.

RESCUE ON RUIE

Location: Ruie (C776977-7) Regina subsector, Spinward Marches

The Travellers are sent by the owning family of Oberlindes, nobles primarily noted for operating a shipping line active in the Spinward Marches, to locate and retrieve a member of the family who has gone missing on Ruie. The subject has fallen foul of local laws and is currently held in a high-security prison. The Travellers are instructed to free the subject and return him to his home by any means necessary. They have a free hand to do as they think best but will be disavowed if caught.

BACKGROUND

The following information is for the use of the referee. Much of it can be obtained by the Travellers through various means. The referee should pass out the information to the Travellers as they earn it, but should also bear in mind that some sources are unreliable or contain distortions of the truth. This is especially true where a government or other organisation controls what information is made public.

Ruie

Ruie is a heavily populated, high-mid-tech world lying on the Spinward Main in the Regina subsector. Its land masses are unusually fragmented, with multiple continents and islands, and this pattern is repeated in its nations and polities. Ruie is heavily balkanised, with polities ranging from global superpowers to small city-states occupying a single island or awkward corner of a larger land mass.

Ruie's atmosphere is tainted but the world is otherwise very habitable, with plenty of surface water and a moderate climate. It was colonised early during Imperial expansion into the region, but declined entry into the Imperium as the Spinward Marches was developed as a sector. As a result, despite being located close to Regina which became a major trade and political hub, Ruie went its own way and progressed slowly using only locally available technology and resources.

Today, Ruie's many states range in attitude towards the Imperium from open hostility to friendly and cordial relations. The starport region is generally pro-Imperial and friendly to starfarers in general, but some areas of the planet are openly or quietly hostile to offworlders. The latter is a serious danger to unwary Travellers, and for this reason is designated an Amber travel zone.
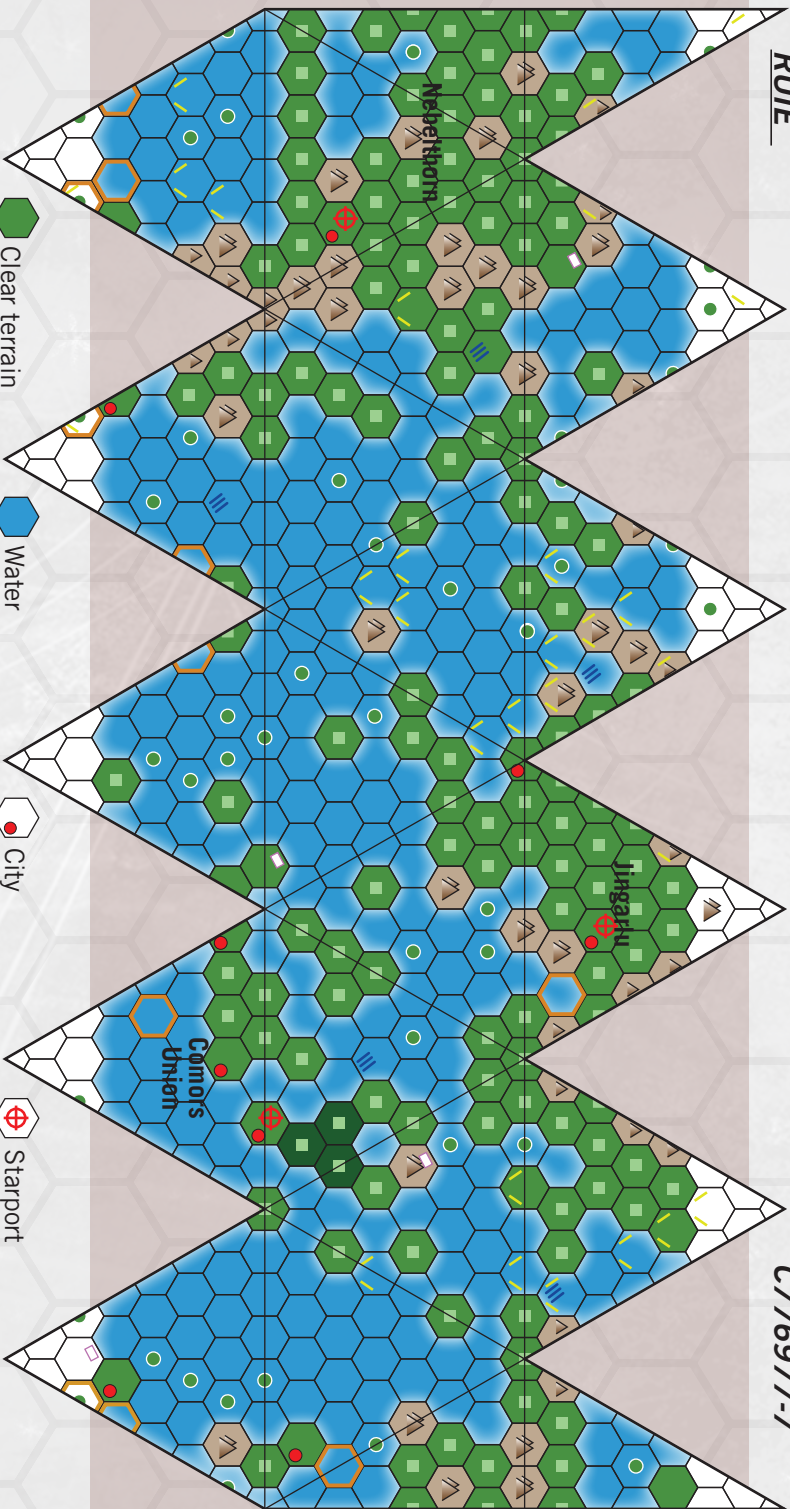
Clear terrain
Rural terrain
Mountain

Water
Ice
Resource

City
Precipice
Chasm

Starport
Wasteland
Arcology

Nebelhorn

Jingalu

Comor's Union

C776977-7

Jingarlu and the Comors Union

The two most pro-Imperial states on Ruie are Jingarlu and the Comors Union. Both have spaceports accessible directly from the orbital highport, and receive a significant number of offworld visitors. These states and their allies have benefited from offworld trade, and have developed a mature TL7 economy with some higher-tech goods available as imports. They are considered safe to visit and outside the Amber zone applied to the world as a whole.

The development of Jingarlu and the Comors Union was largely supported by fossil fuels, imported in great quantities from the neighbouring state of Nebelthorn. However, in recent years the acquisition of alternative power sources and machinery for creating synthetic oil has greatly reduced the dependence of these nations on Nebelthorn, enabling them to move free of its influence. As Jingarlu and the Union have become more prosperous and less amenable to petrochemical-based strongarming, they have also increased in prosperity whilst resentment within Nebelthorn has grown in proportion.

Nebelthorn

Nebelthorn is one of the larger states on Ruie, and one of the least friendly to Imperials. The nation is ruled by an oppressive hereditary dictatorship led by the Eldenn family, which has been in power for the past 120 years. Nebelthorn appears to lag behind the technology enjoyed by most other states on Ruie, and this impression is partially correct; the generally available Tech Level in Nebelthorn is TL6, and most of its armed forces are equipped to this level. However, some elite formations and the upper echelons of society have access to more advanced items. This technological elitism comes at a price of oppression and deep social divides.

Law in Nebelthorn is highly subjective and based on social class. It protects the upper echelons of society first and foremost, and then those who support them such as law enforcement and civic officials. Outsiders such as offworlders or those from non-favoured neighbouring states are actively legislated against, making Nebelthorn one of the most hazardous areas of Ruie to visit. Ample information is available at the starport about which states are friendly to Travellers, which are neutral and which should be avoided. The starport authorities have a policy of not getting involved in the affairs of those who ignore the warnings.

Oberlindes Lines
Oberlindes Lines is a well-established company owned by the Oberlindes family. Starting out as a single-ship independent interstellar shipping concern, the company has grown over the centuries into a major player in the Spinward Marches' freighting and passenger industries. Unlike many merchant lines, Oberlindes has always made a practice of seeking new markets across Imperial borders and maintains strong cross-border links with the Vargr Extents.

In the immediate aftermath of the Fourth Frontier War, Oberlindes Lines underwent rapid expansion using surplus naval transports, significantly contributing to the economic recovery of the border subsectors. The Oberlindes family was recognised by the Emperor for this contribution to the regional economy, and currently the firm is well-respected for its success and importance to the economic well-being of worlds along the Imperial border.

THE SITUATION
All information beyond this point is for the use of the referee. Any or all of it can be offered to the Travellers when appropriate, but the version presented may not be complete, accurate, or free from bias.

Sergei hault-Oberlindes is the 20-year-old son of the head of the Oberlindes family, Marc Oberlindes. As part of his education he was undertaking a 'grand tour' of the coreward end of the Spinward Marches. There were many opportunities for amusement and pleasure, but the overall intent was to broaden Sergei's horizons and give him a better perspective of the region the company operates in. Unfortunately, Sergei's judgement had not kept pace with his itinerary and he landed himself in trouble.

Sergei decided to visit the pro-Imperial parts of Ruie, which went well enough, but whilst in Jingarlu he learned of the Daccam Ruins, not far over the border into Nebelthorn. Fascinated by the idea of seeing unique remains of an extinct alien culture, Sergei overruled his crew's concerns and waved aside warnings. Somehow obtaining a visa to enter Nebelthorn – no easy task – he set off over the border and soon afterward contact ceased.

The increasingly concerned crew of Sergei's ship were unable to get a straight answer out of the Nebelthorn authorities about what had

happened to him, and requests for visas to carry out a search were refused. Eventually a statement was made via the Jingarlu embassy that Sergei hault-Oberlindes had been convicted of assaulting a law enforcement officer and sentenced to thirty years' hard labour. With no other options the crew left Ruie and reported back to company headquarters.

Oberlindes agents were dispatched to Ruie, where they learned that Sergei had indeed landed himself in jail. Apparently he had met a young woman of low standing and became friendly with her, objecting when a Nebelthorn police officer manhandled her in typical routine brutality. Sergei tried to defend his lady, and was subsequently arrested. By local standards he received a fair trial, though there was never any doubt as to the outcome, and the matter has been handled quite legally.

Nebelthorn has shown no interest in negotiating a release, and has rebuffed or ignored all offers of favourable trade deals and even direct bribery. Marc Oberlindes has exhausted all legal avenues trying to free his son and, although he acknowledges the situation is of Sergei's own making, has resolved to liberate his son by any means necessary.

THE MISSION

Oberlindes Lines has determined that Sergei is being held in a high-security prison in a remote area, and wants to stage a rescue. However, the operation must be deniable so using the company's own assets is not an option. Oberlindes Lines will provide transportation to Ruie aboard an independent starship – whose crew are not involved in the mission and have no idea why the Travellers are really there – along with equipment and weaponry. Extraction will be by means of a second ship deployed after the operation begins in order to preserve security.

The Travellers have complete autonomy to act as they see fit, so long as Sergei is returned safely to his family. Oberlindes Lines does not want to know the details, and will deny all responsibility or involvement if the Travellers are caught. The Travellers are advised to operate covertly and cause a minimum of damage, but how they accomplish the task is immaterial. If Sergei is returned safely to his family the Travellers will be well rewarded.

The exact nature of the reward on offer depends on the Travellers' needs and level of equipment. Oberlindes has several far traders and would agree to loan one to the Travellers for a year, paying all maintenance and running costs. Alternatively, a financial reward might be more suitable; Sergei's freedom is worth at least Cr100000 in Oberlindes stock, plus a cash amount in the region of Cr10000 each. Other rewards could be negotiated if the Travellers have particular interests. A company like Oberlindes Lines has enormous political power and can obtain information from sources beyond the reach of most Travellers.

Outfitting and Equipment

The Travellers can take whatever they like to Ruie, providing it can be carried aboard a small merchant ship. Oberlindes Lines will pay expenses through an untraceable account. Any items the Travellers bring will be offloaded at Ruie's starport, and subject to local laws once there. However, it is customary for starports to offer an 'external storage service', which means items legal elsewhere but not locally can be stored at the port without falling under local jurisdiction.

Despite being outside Imperial territory Ruie has such a provision, which enables the Travellers to get equipment onto the planet. They will have to somehow arrange for equipment to be moved from the port to the 'interior' of the world, the easiest way being to conceal items within a vehicle and transfer planetside via the local port at Jingarlu. Local scanners are greatly inferior to those used at Imperial starports, and the Travellers may come up with all manner of other ways of solving this problem.

Crossing the Nebelthorn Border

There are two obvious ways to reach the prison. One is to illegally cross the border from Jingarlu and travel covertly. The other is to take a shuttle to Nebelthorn's spaceport and travel from there.

Using the Spaceport: Getting a flight to Nebelthorn's spaceport from any of the world's ports or its highport is easy enough, though the Travellers may receive some friendly warnings. At Nebelthorn, local law is in force from
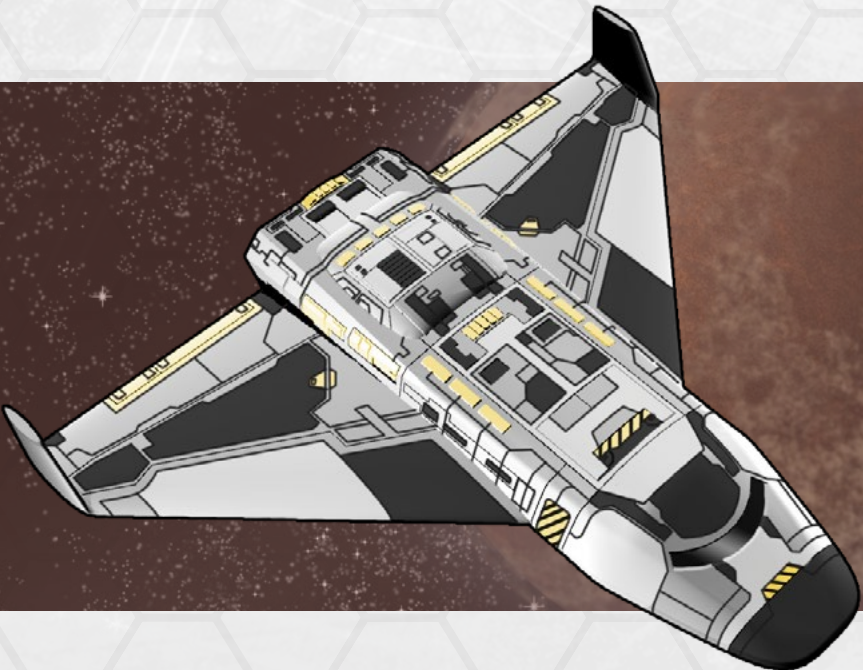
the moment the shuttle doors open, and it is draconian. Those without visas to enter the state are (grudgingly) permitted to conduct business at the port but obtaining a visa is virtually impossible, and without one the Travellers will have to somehow sneak past a very heavy security contingent or fight their way through it – which would bring an escalating response that can only end one way.

It is possible that clever Travellers will come up with a way to get around this problem. However, the referee should note that local people – even the very large proportion who dislike their government – are not receptive to helping offworlders. This is partly due to an ingrained dislike resulting from endless propaganda and partly because the penalties for any act of defiance, especially helping despised offworlders, is very severe. Very good diplomacy and persuasion skills will be required, along with significant incentives. It can be done, but will not be easy.

Covert Border Crossing: The Nebelthorn border is a simple fence, monitored by TL6 electrical devices that do little more than detect when a section has been cut. These are extremely easy to bypass even with basic tools, and with a little preparation the Travellers can get through the fence without difficulty. A road runs parallel to the fence, permitting patrol vehicles to monitor the border, and there are occasional overflights as well. These are highly infrequent, however; if a plane has swept the area in the past three days, the chances of another overflight are very small.

If the Travellers want to take a vehicle across the border, this might pose problems. A grav vehicle can simply fly over, of course, but ground vehicles leave tracks which will be spotted if not obscured – and they require a big breach in the fence which will be harder to conceal. Nevertheless, bringing a vehicle across is entirely feasible. Alternatively, the Travellers might obtain one within Nebelthorn. Locals will be unreceptive to loaning their property to spacefaring adventurers who happen by, but could be persuaded or intimidated. Theft is also an option.

Triggering an Alert
The initial response to any alert will be made by local forces. This usually means no more than four law enforcement officers with sidearms and possibly shotguns or rifles. Law enforcement is paramilitary in Nebelthorn, especially near the border, and cooperation with the armed forces tends to be close. A minor alert such as being detected cutting the border fence or leaving vehicle tracks near it will provoke only a go-and-investigate response by a single patrol, but any violent incident will result in an escalating response.

At first, a response will be locally available forces in light vehicles, armed with smallarms and perhaps a machinegun. TL6 aircraft are available and will be sent to undertake reconnaissance in the event of a major incident (such as someone firing upon guards investigating a border breach). These

will be followed by the full weight of the Nebelthorn military if necessary. If the Travellers pose a sufficient threat that a truckload of troops cannot deal with them, the next level of response is wheeled armoured cars with autocannon and perhaps even an airstrike, with tanks as a further level of escalation if the Travellers hang around long enough.

In short, Nebelthorn is absolutely intolerant of anyone shooting at its border or security patrols, and will throw the full resources of a TL6 nation at a serious threat. This will take time to organise, however, so the Travellers may be able to escape before a heavy response materialises. If so, they are likely to see aircraft searching for them and once located their position will be reported to ground forces who will attempt to apprehend them. 'Apprehend' can mean recover the bodies as evidence of an offworlder threat or international incident; Nebelthorn is not particularly choosy about taking offenders alive.

The clock begins ticking the moment the Travellers are detected. If the incident is low-key, build-up will be slow and they should have time to escape or continue with the mission. However, once shots are fired the escalation will be quick and the Travellers will find themselves on a strictly limited time frame before truckloads of troops start arriving from the nearest military base.

THE PRISON

The prison is located on a small plateau kept barren of vegetation by chain gangs from the prison itself. It is surrounded by a double outer fence, with a 15m clear zone in between. There are guard towers at the corners and mid points of the fence, and a small security compound at the gate. These lie in the space between the two fences.

The fences are electrified. The outer one is designed to be lethal and will deliver sufficient charge to cause 6D damage per round to anyone touching it. There are no warning signs but astute Travellers might spot the low safety fences (to protect guards patrolling between the fences) and vegetation around the base of each fence. The inner fence delivers only 2D damage per round.

The fences are also monitored by basic electronic sensors which can detect a voltage drop (such as when someone is being electrocuted) or if the major wires of the fence are cut. Patrols – usually pairs of guards – walk the perimeter at what are supposed to be variable intervals. In practice, the guards are complacent and have fallen into routine.

The prison itself consists of two main cell blocks, an administrative complex where the guards are housed, and a smaller cell block in one corner of the compound. The latter is an afterthought and creates a gap in otherwise good sight lines from the roof of the admin complex.

The small cell block is for female prisoners and designed to house around 100. It is at present heavily overcrowded. The two large cell blocks are for male prisoners and designed to house 500 each. These are under capacity at present, with around 350 men in each. Should the Travellers investigate, a large contingent of the prison population were taken away as workers on a government project a few weeks ago.

Prisoners are a mixed lot. Some are genuine criminals, and of those a proportion in jail for horrific crimes. Most are guilty of relatively petty offences such as theft or political dissent. There are very few potential revolutionaries at the prison; these are mostly ordinary citizens who fell foul of oppressive laws. They may hate their government but the vast majority are concerned only with their own welfare and not receptive to being turned into a revolutionary army.

Guards are, for the most part, callous and contemptuous of prisoners, who by definition now belong to an inferior social class. Some enjoy brutalising the inmates but most are just doing a job that brings enhanced social status and a decent wage. They are well aware that most prisoners hate them and many will do violence at the first opportunity, so guards tend to err on the side of caution and shoot before asking questions.

MAP OF PRISON COMPLEX

1. Guard Tower
2. Gate/Security Compound
3. Female Cell Block
4. Admin Complex
5. Male Cell Block
6. Rest Area
7. Tracks and exercice area

Getting Into The Prison

There are numerous ways of getting inside the prison fence. The guards are basically competent but complacent. They will notice the obvious, such as a group of 'new guards' in ill-fitting uniforms and with strange accents claiming they have come to join the prison's complement, but can be duped with some care. It might be possible to convince the prison administration that Sergei is to be transferred elsewhere or released into the Travellers' custody. This would require forged documents and a convincing performance; the prison has both a landline and radio link to the capital and the governor can easily check any story the Travellers try to feed him.

Stealth is always an option. Again, the guards are not expecting trouble so maintain only routine watchfulness. The Travellers may be able to get past the fences and into the compound undetected, but it is not just the guards they have to worry about. Inmates are unlikely to just sit in their cells whilst someone else is broken out. The Travellers may have to strike bargains or release prisoners in return for their silence.

Mayhem is also an option, and will probably occur sooner or later. The Travellers can be out of the prison and away before reinforcements arrive, so long as they do not become bogged down in protracted firefights. They are likely to be heavily outnumbered but not necessarily outgunned, and releasing a mob of violent criminals will contribute to the overall confusion. Indeed, the Travellers might even find a way to make the incident look like an internal prison break rather than a rescue.

Rescuing Sergei

Sergei is in one of the prison blocks. Locating him would be easy if the Travellers had access to the prison records. If not, they may need to interrogate a guard or ask other prisoners. Information will not be given up freely by either. Although the Travellers know what Sergei looks like, months in prison have not been kind to him and he is one of about 700 men in prison coveralls, all in identical cells on identical corridors.

How the Travellers locate Sergei is up to them, but once they do there is an additional complication. His ladyfriend is also in the prison and he will not leave without her; she is in the womens' block. Sergei received some personal defence training from Oberlindes Lines security personnel and is capable of handling a weapon. He has scores to settle with a couple of guards and prisoners, and is determined to rescue his lover or die trying. The Travellers will have to decide what to do about this, and quickly…

EXFILTRATION AND AFTERMATH

In a perfect universe the Travellers would sneak or bluff their way in, extract Sergei and his girlfriend, and drive off without incident before making a convenient rendezvous to get off-planet. Few Travellers live in

such a pleasant universe, however, so more than likely they will have to withdraw from the prison under fire, with a response from local military bases beginning to emerge. The border is only a few kilometres away, so a dramatic chase may well ensue, involving aircraft and hordes of Nebelthorn soldiers. The pursuit might not end at the border, which would result in an international incident and maybe even a war. Marc Oberlindes cares little about that, compared to getting his son safely back, but would prefer to avoid it.

The Travellers' contacts are not willing to violate Nebelthorn territory to pick them up as this could have legal consequences, but will make a pickup once the border is crossed. Questions might be asked if this leads to being strafed by Nebelthorn planes, but a typical free trader is all but impervious to TL6 aircraft guns. There is also the question of what happens to any other prisoners who escape from the facility, and diplomatic problems between Nebelthorn and its neighbours. The referee must resolve these matters according to the seriousness of the incident the Travellers cause. Fortunately, Ruie is not an Imperial world and Nebelthorn has an anti-Imperial stance, so Imperial authorities will not be greatly interested in an incident there. The Travellers might be wise not to go back, however…

Referee's Notes

The Travellers can solve a lot of problems with advanced technology. Forging documents, disabling sensors and intercepting communications are all relatively easy with the right technology. The Travellers' handcomps and comms have more processing power than the whole state of Nebelthorn, and most locals are not really aware of what interstellar tech can do. Used imaginatively, the Travellers' personal gadgetry gives them enormous advantages over the locals.

The Travellers might choose instead to leverage a firepower advantage. Faced with fearsome space-weapons the guards are likely to back off and hunker down rather than charge to their deaths. Again, creative use of advanced technology might enable the Travellers to intimidate the guards and avoid bloodshed. A straightforward assault is an option, though this might pique Imperial interest depending on what equipment is used. A bunch of yahoos causing a ruckus on some trans-border backwater is of no consequence, but an attack on a sovereign state by battle dress-equipped Travellers, ending in a pitched battle and half an armoured division destroyed… that will attract notice.

Classic Traveller adventures often ended with a statement that 'subsequent events are at the discretion of the referee'. That remains as true today as when *Traveller* was first published. Who knows what the long-term result of Sergei Oberlindes' rescue might be?

CENTRAL SUPPLY

>> WEAPONS SECTION <<

Cartridge Laser Weapons

Laser weapons can bring a high level of destruction to the battlefield but, at lower Tech Levels, are constrained by the necessity for a bulky power pack. The earliest laser weapons may require a small but heavy backpack to provide enough power, and even more advanced models need a weighty belt-mounted pack that remains uncomfortable and restricting.

Cartridge laser weapons dispense with the need for a power pack by using what is effectively a magazine that provides the necessary energy to fire the weapon via chemical reaction. This greatly reduces the overall weight of the weapon, albeit at the cost of fewer shots. However, the cartridge is no slower to replace than a slug magazine, and is disposable meaning no lengthy recharges are required.

Laser Carbine

Laser Rifle

Weapon	TL	Range	Damage	Kg	Cost
Cartridge Laser Carbine	10	150	4D	3	Cr2500
Cartridge Laser Carbine	12	200	4D+3	2.5	Cr4000
Cartridge Laser Rifle	10	200	5D	5	Cr3500
Cartridge Laser Rifle	12	400	5D+3	4	Cr8000

Weapon	Magazine	Magazine Cost	Traits
Cartridge Laser Carbine	15	Cr70	Zero-G
Cartridge Laser Carbine	20	Cr70	Zero-G
Cartridge Laser Rifle	20	Cr150	Auto 3, Zero-G
Cartridge Laser Rifle	25	Cr150	Auto 3, Zero-G

RELIGION IN THE TWO THOUSAND WORLDS

Like most intelligent races, the K'kree have evolved elaborate religious beliefs to help explain their place in the universe, the purpose of life, and the promise of the future. The K'kree, among the most conservative of the major races, are unique in several ways when it comes to the question of religion and philosophy.

First, they are more closely rooted in the traditional beliefs of their ancestors than any of the other major races. K'kree religion and philosophical thought have been less affected by the developments of science, particularly by exposure to non-K'kree beliefs, than is the case with any of the other major races. The religious principles of their forefathers have been handed down almost unchanged from the earliest K'kree civilisations, over a period of several thousand years (as if we on Earth worshipped Ra in the manner of the early Egyptians).

Secondly, the K'kree religion is monolithic. Like their government, the K'kree religion is a universal 'state religion', not fragmented as with most other star-faring societies. There are few K'kree who do not subscribe to the same beliefs, and two K'kree theologians from opposite ends of the Two Thousand Worlds could exchange views without disagreement or controversy.

Finally, the K'kree religion is, by our standards, an undemonstrative one. Like Taoism in Earth's China, the K'kree religion is less a way of worship than a way of thought and belief. While K'kree religious writings abound in myths and legends, there is a definite belief in divinity and divine purpose. The K'kree never seem to have evolved the notion that their deities could be swayed by prayer, offerings, promises, or good behaviour. As suits a harsh and militant people, the divine play is distant, inscrutable, and unrelenting.

The K'kree religion is a fatalistic one, in which the concepts of 'fate' or 'karma' from terrestrial religions would be very much appropriate. The K'kree believe that most of what happens has been long since preordained, and is quite unchangeable by any mortal agency. This fatalism, however, is tempered by an absolute faith in their own glorious destiny. In accordance with the basic concept of the group being far more important than the individuals that make it up, the K'kree believe that no number of reverses, crises, or individual tragedies can prevent the K'kree race from fulfilling its ordained role. Thus, fatalism does not hamper them; instead it makes them almost fanatical. If a K'kree soldier has been fated to die, he will die… no amount of running from destiny will stop him from being killed. Thus, he is more inclined to put his every effort into the battle. The

same is true of all of K'kree life. As befits their natures, the religion of the K'kree is perhaps the most supremely polytheistic religion practiced by any race anywhere. The K'kree believe that each and every living K'kree is the worldly counterpart of a divine being. The religion holds that there is an ideal universe, somewhere in time and space, in which all K'kree who ever were (or will ever be) live. It is a single, immense prairie on which all can live in complete peace and harmony, under a divine Steppelord who rules over all equally.

Each mortal K'kree is a living embodiment of his respective divine counterpart, born into the world for the dual purpose of carrying forward the divine plan for this shadow world, and of testing the individual's worth. These divine K'kree become mortal once, live out a lifetime in this universe (which is but an instant in their own), and then return when their part is done. The way in which they stood up to the trails of this universe determines their standing in the other.

Details of these concepts are hard to translate to the human mind. There seems to be little concept of a 'good' 'evil' life, or of rewards or punishments handed out for conduct. Ethics and morals are not so much the object of judgment as the ability of the individual to play his part without complaint, doing what needs to be done. In many respects, these religious concepts can be acquainted with certain philosophical teachings of Terra's ancient Greek and Roman cultures, particularly certain Plato's doctrines (see especially *The Republic Book VII*) and some aspects of stoic philosophy.

That the K'kree believe themselves to be reflections of divine beings in temporary mortal form is an interesting concept. It is the basis for their extremely rigid dislike of other races, for the K'kree religion makes no provision for non K'kree in their paradise world. Thus, all non-K'kree they meet, no matter how intelligent, are of the shadow world (the physical universe) alone, and hence inherently inferior. Yet the K'kree know themselves to be mortal in this life; their divine essence is no more and no less immortal than the human concept of the soul. The shape of the divine plan for this 'shadow world' in which the K'kree live out their mortal lives is also an interesting one. The closest approximation to the K'kree belief possible in human terms, and the approximation is by no means exact, is that the K'kree come into this world to shape it into a new paradise, into which some other people will eventually emerge and, in turn, descend into another 'shadow world' to shape its progress towards paradise. It is an infinitely repeating cycle of creation through a multitude of universes. Just who is to inherit this universe is hard to say; some K'kree writings seem to indicate it is another race of K'kree, but a few translations could be interpreted to mean that it is some K'kree client race that will ultimately emerge as the 'divinities' who will descend into the next shadow world from ours. This would seem to be at the core of the K'kree efforts to shape certain subject races into a pattern conforming with their own ways. All other shadow races are, of course, nothing but obstacles in this life to be overcome.
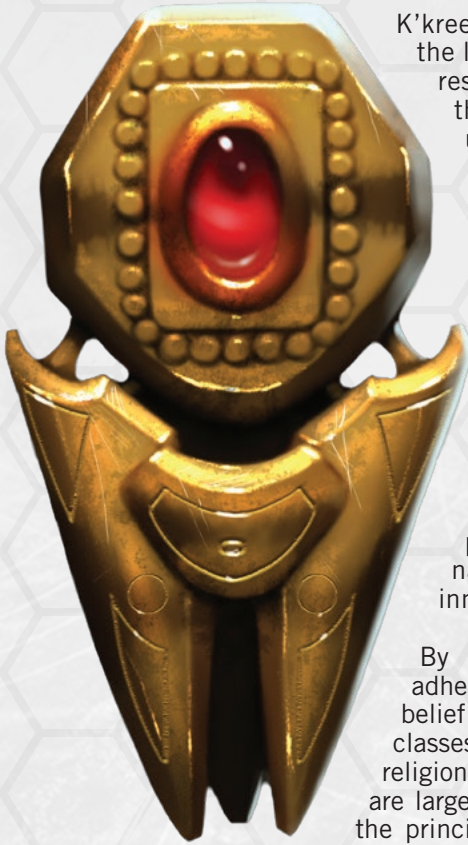
K'kree religious belief, at least among the leaders, was badly strained by the results of the Hiver-K'kree War. In that war, the Hivers threatened to use psychohistorical techniques to undermine the very fabric of K'kree society... and they offered convincing proof of their ability to carry the threat out. This was clearly at odds with the concept of the divine plan. The K'kree backed down from the conflict, but the details of the true nature of the conflict were never made public. A certain weakening of the faith in the upper classes of K'kree society seems to have taken place, but their conservative nature made the idea of religious innovation unthinkable.

By and large, today's K'kree still adhere strongly to the faith, though belief is weakest among the upper classes. The practical aspects of the religion – the influences on behaviour – are largely independent of actual belief in the principles of the religion itself. K'kree are encouraged to be stoic, obedient, willing, and to live their lives in a way that will bring them merit (by accepting and overcoming everything that life throws in their path).

Religion is a private matter; as was mentioned before, worship is not as important to the religion as living a life in accordance with the principles of the faith. This is reasonable when one considers that the K'kree deities are the K'kree themselves and anything paralleling worship or veneration of a 'patron deity' is a highly personal and private matter indeed (one of the few uses of the concept of 'privacy' in K'kree culture).

Many members of the Merchant caste (and a few Nobles) are theologians; they write on a variety of speculative religious topics, theorise on the nature of Paradise or the lesser shadow worlds, and so forth. Such theology is strictly a part-time pursuit, a hobby; there is no organised K'kree church structure or true priesthood. Still, theologians of note are well-respected, and accrue benefits from their station (reduced meal prices, invitations to other worlds, free rooms), similar in nature to the human Travellers' Aid Society.

TVASTAR-CLASS MANUFACTORY STARSHIP

The Tvastar design dates from the late Second Imperium. A few ships date that far back, having remained in operation during the Long Night. The Tvastar was conceived as being able to deploy all the infrastructure a new colony would need, by landing and converting itself into said infrastructure (turning the 3,594 crew into colonists).

The vision was noble, the practice often makeshift. Few colonies could afford to buy an entire Tvastar and sacrifice it in the name of colonial infrastructure, though this did happen, usually when the owners of a Tvastar went bankrupt and those founding a new colony were able to purchase the ship for Credits on the Megacredit. Even so, relative to the usual expense and labour of starting a new colony, sending just one or two Tvastars to land and become a colony became a textbook example of low effort colonisation. The captain and first officer, traditionally being the pilot and astrogator (trained in both skills to back each other up), often found their training useless on the colony; in some cases, they were paid with a yacht built during the trip for them to fly off and retire with.

Renting a Tvastar, trained factory staff included, was more affordable but still put a starting colony deep in debt, causing many owners to require customers to draft plans showing a path to profitability, something most ideologically-minded would-be colony founders had little experience in. Successful efforts had to be mercantile, making the Tvastar a symbol of concentrated wealth being used to make more wealth at the expense of 'simple, honest folk' who just wanted a new place to live. Increasing distrust of off-planet megacorporations limited production, until the design was but archived data to be rediscovered during the Third Imperium.

Tvastars were more often used for disaster recovery, or to respond to market surges that demanded an increase in this or that manufacturing capacity. One polity during the Long Night was nothing more than a Tvastar and the colonies it maintained, which lasted until the Tvastar (with the polity's core technical talent) was destroyed by pirates mistaking it for a battleship. Attempts have been made to base an entire clan on Tvastars but as everyone must work, leaving no room for children or the infirm, this has never lasted long. Tvastars tend to be made in small production runs and customised by their crews, making every Tvastar unique.

The convex hull – to increase radiative surface area, as a Tvastar runs somewhat hotter than usual for a ship of its tonnage – has been likened to mountain ridges in space. A more apt comparison would be valleys in space: of the six ventral and dorsal voids, the outer four are designated for receipt of raw asteroids (the redundant cargo nets forming temporary

airlocks sealed over hatches to facilitate moving asteroids into the giant central cargo bay), which are sliced, crushed, smelted, forged and manufactured into a vast array of goods, then transferred to starports or cargo ships docked to the inner valleys. When building spaceships and other objects too large to transfer via airlocks, standard procedure is to construct a temporary hangar from the refinery's reject material. As the cargo bay is more than a third of a kilometre at its widest, elevator cars in the fins link to tubes lining the bay walls to facilitate transit without navigating cargo. Gravity in the spikes is set toward the cargo bay, while the bay itself is kept in zero-g. A Tvastar sacrificing itself to make a colony will split along the bay, landing all fins upright, during final planetfall.

A Tvastar's smelter, refinery and production plants are balanced against one another. Given a sufficient supply of asteroids, the smelter's entire average daily ore production is consumed that same day by the refinery. The refinery's daily output, along with crystals, gems and radioactives from the smelter, is entirely consumed by the production plants. If a Tvastar is packed full of asteroids before a jump, the rocks can be converted to manufactured goods over the next seven days. This runs into problems in practice, when asteroids do not have an exact yield of useful materials or a jump may run a day short or a day long, but on average it works out.

Perhaps the most famous Tvastar is the Phoenix 2800, whose 5-year voyage saw it launch from Terra, cross the crumbling Rule of Man with many adventures on the way, carefully sneak across the Vargr Extents and eventually found the colony Havensmith in far-off Thaku Fung sector, which would not be officially re-contacted by the Third Imperium until 1104. It sacrificed just shy of 60% of its plants, refinery, smelter and asteroid cargo (keeping the proportionate balance) for 60,000 low berths, 4,200 additional staterooms, 1,800 tons more common areas, 270 further medical bays and a sizable planetary survey scientific operation suite. Its remaining manufacturing output was devoted to maintaining and reconfiguring the fleet of ships it acquired during its trip.

CREW

Pilot, Astrogator, Engineers x 731, Mechanics x 200, Administrators x 100, Medics x 30, Stewards x 36, Factory Workers x 2,211, Refinery Workers x 105, Officers x 179

RUNNING COSTS

Maintenance Costs: MCr5.213879/month
Purchase Costs: MCr62566.55

TVASTAR-CLASS MANUFACTORY STARSHIP

TL 12		TONS	COST (MCR)
Hull	200,000 Tons, Standard Light	-	7,500
M-Drive	Thrust 2 (energy efficient x2)	4,000	10,000
J-Drive	Jump 3	15,005	22,507.5
Power Plant	Fusion (TL 12), Power 99,000	6,600	6,600
Fuel Tanks	J-3 plus four weeks of operation	60,660	-
Bridge		60	1000
Computer	Computer Core/70	-	80
Sensors	Improved, Distributed Arrays	9	12.9
	Improved Signal Processing	1	4
	Mineral Detection Suite	-	5
Systems	Fuel Processor (60,660 tons/day)	3,033	151.65
	Fuel Scoops	-	1
	Cargo Cranes	496.5	506.5
	Cargo Net x8	40	8
	Medical Bay x30	120	60
	Biosphere (3,600 people)	1,800	360
	Basic Manufacturing Plant (470 tons/day)	2,350	470
	Advanced Manufacturing Plant (470 tons/day)	5,875	2,350
	Specialist Manufacturing Plant (94 tons/day)	2,350	2,350
	Agricultural Manufacturing Plant (235 tons/day)	2,350	1,175
	Mineral Refinery (1692 tons of ore & 423 tons of crystals and radioactives per day)	2,115	2,115
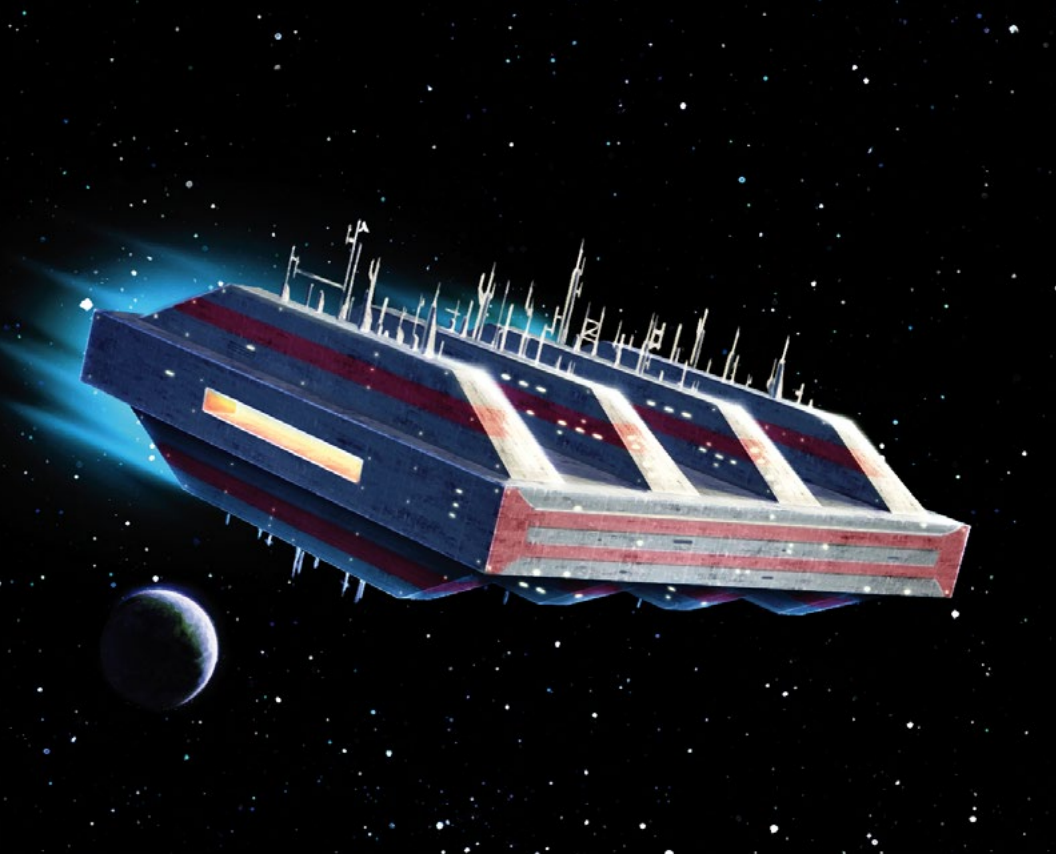
TL 12		TONS	COST (MCR)
Systems	Smelter (1692 tons ore into 846 tons raw materials per day)	8,460	4,230
Staterooms	Standard x1800	7,200	900
Software	Manoeuvre/0	-	-
	Jump Control/3	-	-
	Library	-	-
Common Areas		1,800	180
Cargo	Main (asteroids for processing or finished goods)	74,025	-
	Ship's Locker (spare parts and ship's stores)	1,640.5	-
		Total	62566.55

HULL POINTS
120,000
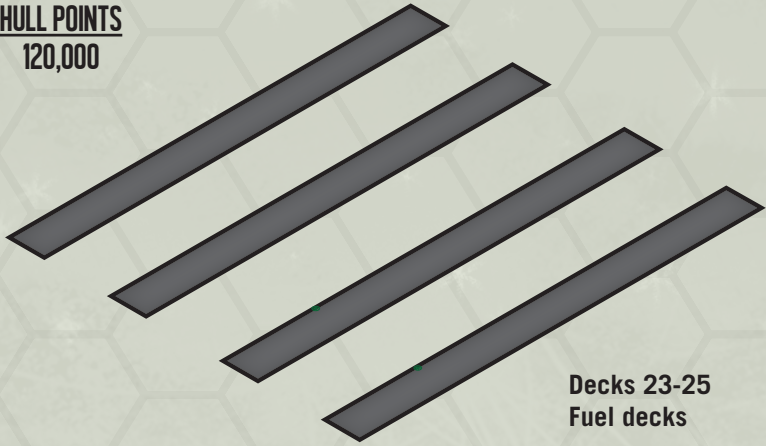
Decks 23-25
Fuel decks
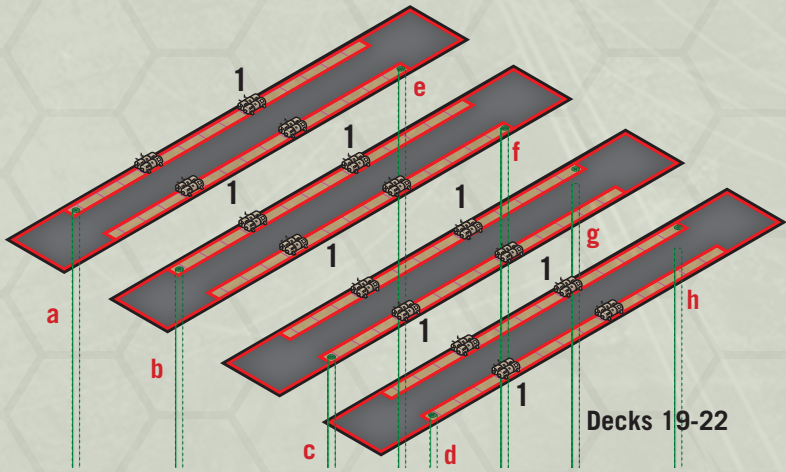
Decks 19-22

POWER REQUIREMENTS

Basic Ship Systems	40000
Manoeuvre Drive	20000
Jump Drive	60000
Sensors	9
Fuel Processor	3033
Biosphere	1800
Basic Manufacturing Plant	2350
Advanced Manufacturing Plant	11750
Specialist Manufacturing Plant	4700
Agricultural Manufacturing Plant	2350
Mineral Refinery	4230
Smelter	8460

Decks 16-18

Decks 11-15

LEGEND

1. J-drive
2. Fuel processor
3. Power plant
4. Smelter
5. Refinery
6. Manoeuvre drive
7. Cargo net drone silos
8. Advanced manufacturing plant
9. Spare cargo area
10. Staterooms
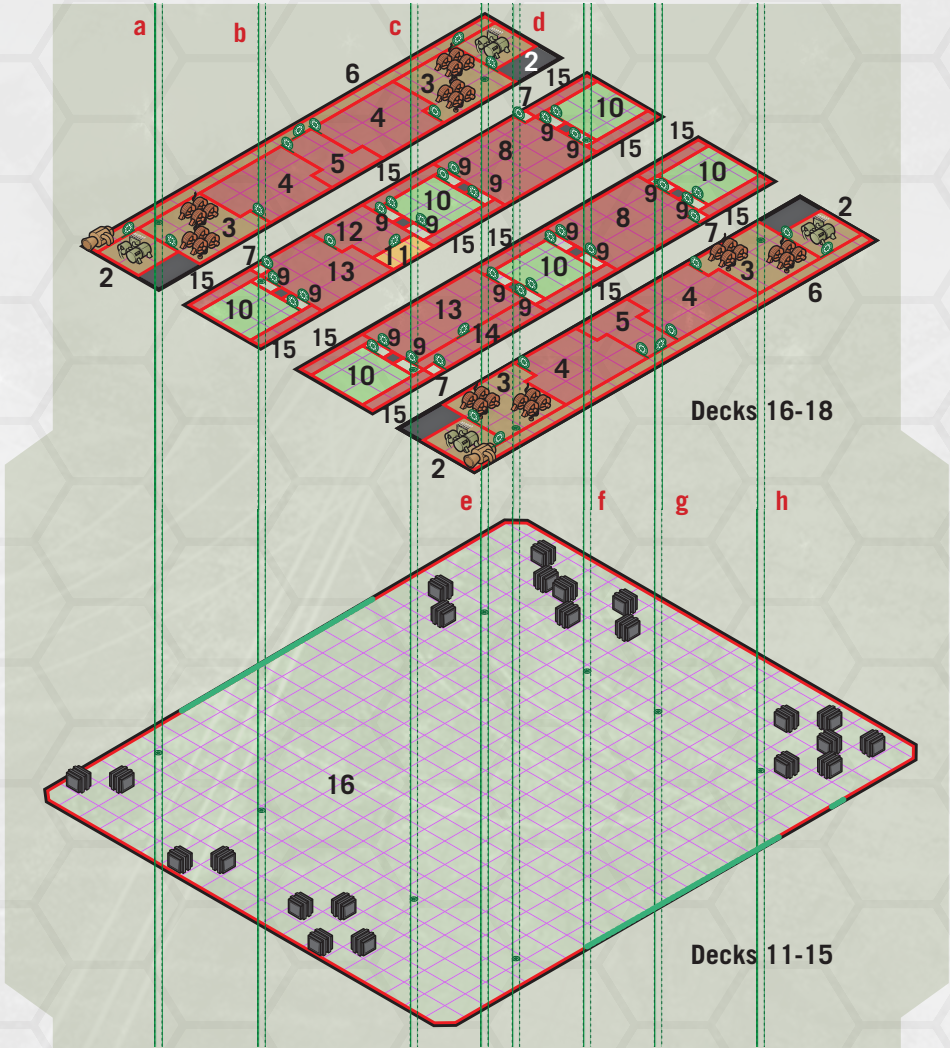
11. Bridge (deck 10)/Medical (decks 8-9)
12. Basic manufacturing plant
13. Specialist manufacturing plant
14. Agricultural manufacturing plant
15. Biosphere and common areas
16. Main cargo hold

Decks 8-10

Decks 4-7
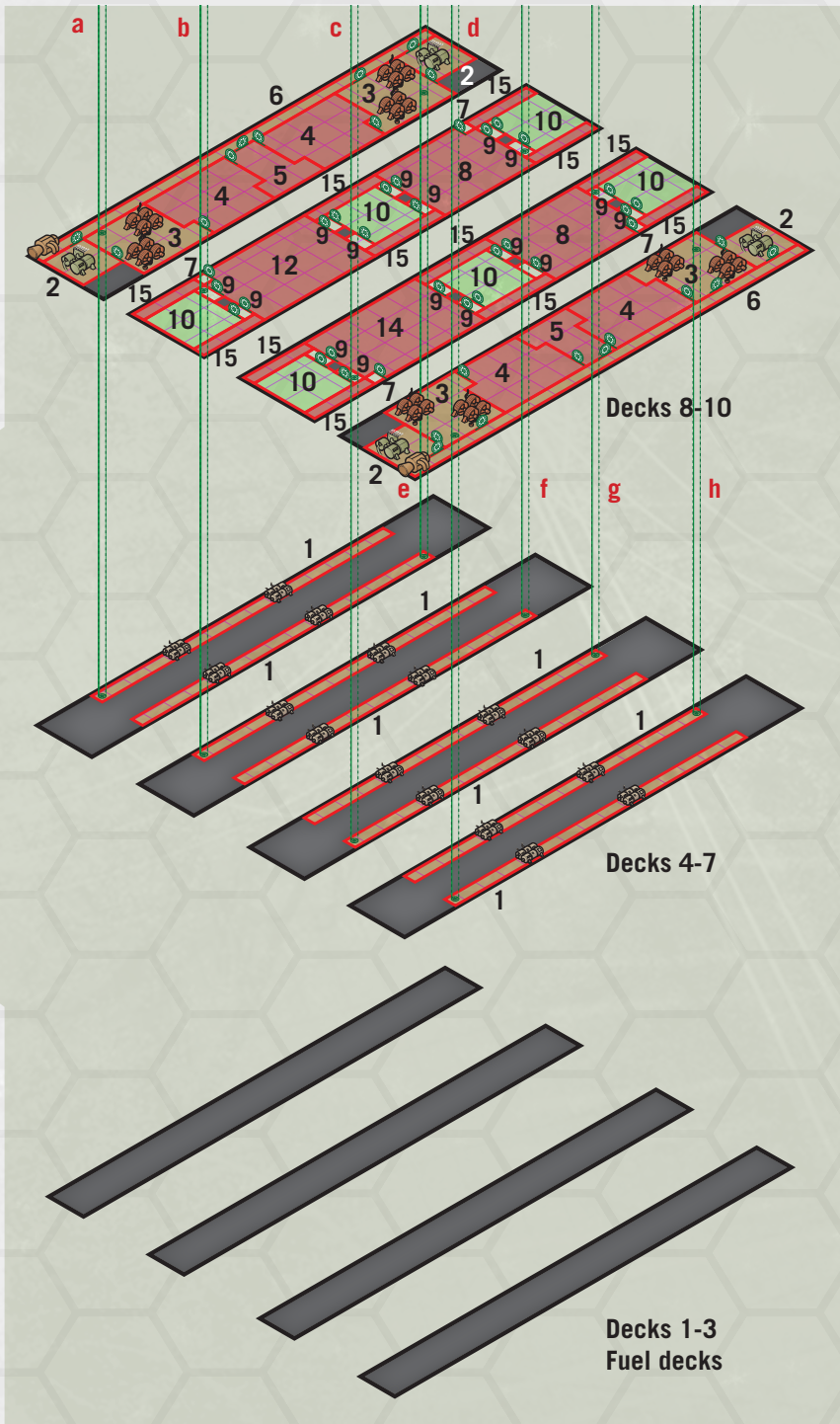
Decks 1-3
Fuel decks

'FAST JONNY' MCRAE

Jon 'Fast Jonny' McRae is wanted on at least ten worlds, under a number of different names, for crimes ranging from grand theft to impersonating an Imperial Military Officer. A fast-talking, free-wheeling con man, McRae is engaging and likeable, even to the victims of his elaborate (and usually expensive) scams. Jonny lives well, and enjoys life to the fullest. Wherever he goes, he finds the best foods, the finest wines, and the most beautiful women. This taste for high living is costly, and cuts into the profits of his operations, but McRae is content to work a little longer to recover his expenses. Actually, McRae's swindles are carried off more as a game than as a necessity; Jonny's mercurial temperament and dislike of boredom and inactivity lead him to devising elaborate cons even when he has no immediate need for cash.

Certain scams are regular favourites, and used frequently. One is to pose as an inspector employed by some merchant line or consulting firm (or, on one notable occasion, as a member of the IISS security branch), deadheading his way from one system to another under the guise of conducting a 'safety procedures examination'. Similarly, he has been known to eat magnificent multi-course meals in fine restaurants, while allowing staff members to think he is the restaurant reviewer from a local news service – thus getting the meal free, and fine service to boot. These, however, are just petty games 'to keep my hand in' as Jonny puts it.

His real cons are much bigger in scope. McRae has been known to steal, and later sell, small starships. Often his victims haven't realised they've been had for weeks. McRae's adventures often net him millions of Credits from a single sting... which he goes through in a remarkably short time, often financing a new operation.

His smooth, polished manner and great personal charm make McRae a convincing individual. A victim once said of McRae, 'he could talk a centaur into taking a job as an elevator operator!' Young, good-looking, and utterly disarming in his appearance, Jonny is a great ladies' man; his success often allows him to latch on to wealthy, well-connected women and bilk them of large fortunes, or use their influence to help him in one of his schemes.

Travellers may encounter 'Fast Jonny' McRae under a variety of circumstances. Usually, he will approach them in an attempt to con them, or use them as unknowing dupes in some elaborate scam. Should this happen, he will be quite convincing, and the Travellers will have a great deal of trouble resisting his advances.

This is the general rule, in fact, in all situations involving Jonny McRae. He always attempts to dominate his surroundings, and never tells the truth if he can fabricate a convincing story of some sort instead. Even those who are aware of his reputation often find themselves being taken in by Jonny's charming manner and powers of persuasion.

Other situations involving the Travellers with McRae can be of interest in a campaign or adventure. For instance, McRae could be running from the law or some powerful individual he has just swindled. Jonny could approach the Travellers with some elaborate story or phony job offer, hoping to use them to get him off-world or distract pursuit. As a result, those pursuing Jonny can end up chasing the Travellers as well.

Jonny may also involve the Travellers in a really big scam. For example, he might hire them as crew for a starship – which they later realise was stolen.

This, too, could put the Travellers in a bad position.

On the other hand, the Travellers might be hired by the law, a private individual, or even by the local mob, to help track Jonny down and trap him. Another possibility is that the Travellers will be caught in the crossfire when Jonny's luck runs out, and his enemies finally run him down.

'Fast Jonny' is brilliant at changing identities. His skill at forgery and years of experience and travel have enabled him to build up a large collection of false ID papers. McRae is also good at changing his appearance (both with and without make-up), and is a talented actor and mimic.

Among his many aliases, Jonny is most fond of one: Commodore Laruskaa Korkoran, IN. McRae has built the identity carefully over the years, and exercised care to keep Korkoran's name clear of the scams he has indulged in. As the commodore, McRae has an iron-clad protection from suspicion. Korkoran's record shows him to be brilliant (an Academy honours graduate), a war hero, and a

Jonny McRae
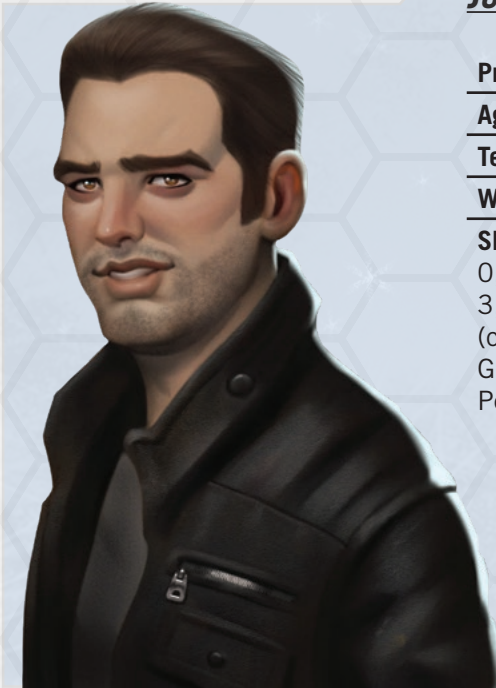
Profession	Con artist
Age	-
Terms	-
Weapon	Body Pistol (2D)

Skills : Admin 1, Advocate 0, Carouse 3, Deception 3, Diplomat 0, Electronics (computers) 1, Gambler 1, Gun Combat 0, Investigate 1, Persuade 3, Streetwise 2

STR: 8   **INT**: 11
DEX: 11   **EDU**: 6
END: 7   **SOC**: 4

trusted officer. Where records could not easily be faked, McRae has carefully covered his trail by associating Korkoran with places, people, and events not easily checked.

Among his papers McRae has a warrant identifying Korkoran as an Inspector General on a roving commission to investigate naval affairs. Because the character of Korkoran is above suspicion, McRae often uses him as cover for escapes; as yet the deception has never been discovered.

Jonny McRae is wanted and considered dangerous. A Cr40000 reward is offered by Imperial authorities for his arrest, in connection with the time he posed as a marine colonel to gain access to records of a mineral survey on Prometheus – one of his few failures.

Other rewards are in effect from various governments, and some wealthy criminal leaders have taken out contracts on him as well.

In actual fact, though McRae carries a weapon he is quite reluctant to use it, and is far more likely to use his wits and words than force in any tight corner.

STOCK EXCHANGE

Steady and careful gains on the stock exchange are not really the stuff of Traveller adventures, but a more aggressive and risky approach to playing the financial markets might be more in keeping with the spirit of freewheeling adventure. Events on the stock exchange might provoke the Travellers to wonder if something is afoot – or they might be the ones undertaking shady activities in the hope of influencing their stocks or undermining someone else's.

If the stock exchange is going to be important in a campaign the referee will need to decide what stocks are available for trading. These should include the major companies and corporations involved in the campaign, and must be diverse enough to give the Travellers choices to make. Worlds of TL4 and below will not have a stock exchange of this sort, though there may be financial markets at the starport which are unconnected with wider planetary society. This does not preclude speculating on local businesses through a convoluted process, but in any case TL4 or lower industries are rarely significant on an interstellar-scale.

Having determined what stocks are available, the operating price for each must be established. The referee may choose to set some stock prices rather than determining them randomly, especially for very large or important corporations, or companies significant to the campaign. Deliberately setting some stocks at an attractively low price may entice Travellers to get involved in stock exchange speculation, or to wonder why this wonderful opportunity has suddenly opened up.

To randomly determine the value of any given stock, roll 2D and multiply by 10 to give the price per share in Credits. Travellers can buy and sell any number of shares, but for ease of book-keeping it is best to use multiples of one hundred at a time. Fees are levied on every stock transaction. This is typically 1-2% of the value of the sale or purchase but may be more in some markets.

Once the starting values of stocks are known, the referee will need to determine the movement of share prices over time. This can be done whenever the Travellers shown an interest in the market, or the referee might follow a schedule of determining changes every game week regardless of Traveller interest. The latter creates more possibilities for large changes between Traveller interactions with the stock brokerage but requires more work on the part of the referee.

Each stock offered for sale must be assigned a fluctuation rate which will indicate how much the share price will change over time. Very stable companies tend to see steady but unexciting share price changes, with modest growth being the norm. Some firms are prone to a rather greater change in their share price, which may indicate temporary conditions or long-term instability.

Stable stocks change at a base rate of D3 Credits.
Changeable stocks change at a base rate of 1D Credits.
Volatile stocks change at a base rate of 2D Credits.

In addition, stocks should be assigned a growth or loss trend. Extreme rates tend to be short-lived, representing boom, bust or crazy levels of buying and selling that have caused the market to become unstable. However, it is the nature of business that the trend is towards steady growth. Each Trend has a DM associated with it, which will bias the market back towards a more stable state of modest growth.

Crashing stocks decline at a rate of 1D+3 times the base rate of change. Trend DM+6
Plunging stocks decline at a rate of 1D times the base rate of change. Trend DM+4
Steeply Declining stocks decline at a rate of D3 times the base rate of change. Trend DM+2
Declining stocks decline at a their base rate. Trend DM+1
Growing stocks increase at their base rate. Trend DM+0
Rapidly Growing stocks increase at D3 times their base rate of change. Trend DM-2
Exploding stocks increase at 1D times their base rate of change. Trend DM-4

TRADING

For example, shares in The Interstellar Widget Corporation (TIWC) start out at Cr70 per share. The referee decides this is a Changeable stock, which changes at a rate of 1D Credits per share. The stock is growing steadily.

After a week the Travellers take a look at the share price to see if they want to buy more shares in widget production. The stock is growing, so price increases at its base rate of 1D credits. The referee rolls an uninspiring 1; TIWC shares are now worth Cr71.

A week later, the Travellers take a look at the share price at their latest planetfall. The referee rolls 2D to determine if the growth trend has changed. The dice come up a 5 – trend declines one category. TIWC stock is now Declining, so share price has fallen by the base rate of 1D Credits. In this case the roll is a 6, so share price is now Cr65.

The Travellers decide to invest, hoping for an upturn in the market, but the following week the referee rolls 4 on 2D. Even with DM+1, this indicates trend declines one category. TIWC shares are now steeply declining; share price falls at a rate of D3 times the base rate of change. In this case the referee gets the maximum result of 3 and 8 – share price drops by Cr18 to Cr47 each. Naturally, the Travellers decide to shovel money into this falling stock since they are entirely sure it will rebound. The referee's roll to determine the share trend is made with a DM+2, so there is a real chance this will happen. If so, the Travellers could make some money on the market. If not… well, there are never any guarantees.

The referee may choose to alter the trend for any given stock. If random determination is required, roll 2D and add the change DM:

2D + Trend DM	Result
2-	Trend declines two categories
3-5	Trend declines one category
6-8	Trend remains the same
9-11	Trend increases on category
12+	Trend increases two categories.

Stock trends and stability will be affected by local political conditions as well as wider economic factors. This usually follows a logical pattern; wars increase the value of companies making military hardware whilst

periods of political instability tend to make the markets more volatile in both directions. The referee may also impose conditions based on the Travellers' actions or the needs of the campaign. Smart Travellers might begin generating their own adventures as they find ways to undermine the stock of their rivals and push the value of their own preferred companies up. Alternatively, they might attempt to obtain insider information about the plans of a company which will affect its share price, or the intended actions of a political group or government that might affect the markets.

It is important that the stock market remains a spur to adventure rather than a means for Travellers to generate vast wealth from the comfort of their armchairs. If, for some reason, the Travellers do become obsessed with playing the markets the referee will have to develop a much more complex model than this one to accommodate them… or perhaps entice them to go out adventuring instead of watching their stock portfolio grow. It might seem unfair to wipe out the Travellers' finances with an arbitrary market crash, but the Travellers may have enemies who do not want to see them prosper. Having large amounts of money tied up in a volatile stock market might create an opportunity for an enemy to strike the Travellers right where it hurts… in the wallet.

17.6	6.4	▽	-2.35%	▽	-2.4
23.4	1.1	▲	2.44%	▲	+2.8
85.2	0.4	▲	5.27%	▲	+1.2
19.4	2.2	▲	9.4%	▲	+3.7
21.6	0.5	▽	-2.61%	▽	-1.5
16.1	0.3	▲	1.15%	▲	+2.1
31.8	1.6	▲	3.86%	▲	+3.2
23.9	4.2	▽	-2.98%	▽	-2.6
17.5	0.8	▲	7.52%	▲	+4.1
48.1	6.1	▲	8.15%	▲	+2.9

THE AEL YAEL

The Ael Yael are among the few exceptions to the time-honoured rule of sophontology stating that flying creatures, because of body weight, brain size and the metabolic requirements for both, will never evolve into intelligent species. The combination of low gravity and dense atmosphere on Jaeyelya (B-584655-6), the homeworld of the Ael, permits flight in creatures large enough to develop the brain capacity for sentience.

Adult Ael stand 1.5 metres tall, and mass 50 kg. The species evolved from flying arboreal hexapods, which used powerful hind and mid-legs to grasp their prey as they swooped from overhead. A carnivore's cunning, coupled with environmental pressures, favoured the rise of intelligence. The forelimbs' gliding surfaces eventually became serviceable wings (which span four metres), while the midlimbs became both generalised and flexible enough to permit tool-making.

Ael eyesight is slightly better than that of a human, Their visual range extends into the infrared, giving them good night vision, while a light-sensitive lens pigmentation keeps them from being dazzled by harsh sunlight or brilliantly reflective surfaces.

Ael are fierce warriors in combat; in hand-to-hand combat they can use their tail as a club, or buffet a target with their wings. Their hindleg talons are also fearsome weapons. Ael are not comfortable fighting in an enclosed area where they cannot take flight, such as within a starship or building interior, and will avoid this if at all possible.

HISTORY

The Ael apparently developed intelligence too late to save their species. Their world of Jaeyelya is drying out, and the once extensive forests have been vanishing during the last thousand years. Some few Ael colonies still live in treetop communes, but most inhabit the caves and fractured clifftop rocks that overlook Hi-yayahu lae – the Glittering Floor. There are probably less than a million Ael on the entire planet and, but for offworld contact, they might have already been driven into extinction by climate change.

With the coming of the Imperium to Jaeyelya, there was new hope for the survival of this fascinating culture. Large numbers of Aeyeyehi (literally 'updraft riders', referring to young Aels just learning to fly) travel off-planet each year to attend Imperial schools and training programs. A number have joined the Scout Service, which finds their racial talents useful in the exploration of new worlds. The wealth and knowledge returned to Jaeyelya this way may save this culture from extinction.

Jaeyelya
Vipach subsector

Map legend:
- Secure System (green)
- Amber Zone (orange)
- Red Zone (red)

Hex map entries:

- **0434 NEMEET** — D-8 — D4307CB-8
- **0435 GWELBYTH** — ▲ 🚀 — C-8 — C42356A-8
- **0137 CHOLTONRUL** — ▲ 🚀 — A-D — A587452-D
- **0236 GIHMENTAH-LISH** — B-9 — B895573-9
- **0436 FLASLOUSK** — C-9 — C5435A7-9
- **0536 IMAGALU** — ▲ 🚀 ★ — B-8 — B967852-8
- **0137 USHULU** — 🚀 — C-8 — C7829DA-8
- **0237 STRAND** — C-8 — C548983-8
- **0537 WOLS** — 🚀 — A-D — A764137-D
- **0737 ZAMASHUUG** — 🚀 — B-B — B585120-B
- **0237 STRAND** — C-8 — C548983-8
- **0437 JAEYELYA** — ▲ 🚀 — B-6 — B584655-6
- **0138 ROOLYZ** — C-B — C433103-B
- **0338 PHOENAEG** — 🚀 — D-5 — D560867-5
- **0438 LEM** — ▲ — D-8 — D532216-8
- **0738 DIKAASH** — ▲ 🚀 ★ — B-D — B6279B8-D
- **0339 SAGAL** — 🚀 — X-6 — X887A9C-6
- **0239 OUNASH** — 🚀 — X-7 — X420335-7
- **0439 DIMKODRARN** — ▲ 🚀 — B-B — B553465-B
- **0639 ASIILISH** — 🚀 — A-E — A565400-E

Legend:
- 🚀 Gas Giant
- *B-6* Starport Class & Tech Level
- ▲ Imperial Scout Base
- 🟤 Planet (dry)
- 🔵 Planet (water present)
- ★ Imperial Naval Base

The Hi-yayahu lae clifftop commune is the guardian of Jaeyelya's primary natural resource; the Glittering Floor is a dry sea bed, and vast mineral and metal deposits collected here as the sea evaporated millennia ago. Jaeyelya was first discovered by an Imperial mining corporation, which began tunnelling into the Glittering Floor's salt beds looking for manganese and copper. Large numbers of local Aels were effectively enslaved by the corporation; the proud and freedom-loving autochthones fought back, and the bitter war resulted in Imperial intervention and establishment of an Imperial protectorate on the planet. 'The Government Place' is a building at the planet's Class B starport facility which serves as the Aels' link with starfaring civilisations.

The Aels themselves seem never to have evolved a governmental system, at least none more complex than loose tribal or family structures, and

welcome the offworlders' representation. Naturally, they have an acute distrust for mercantile corporations, and for individuals employed by such concerns. As a result, ores and minerals mined from the dry sea bed are purchased directly from the government, and the planetary mines are a government monopoly.

SOCIETY

The Ael Yael culture has a rich heritage of recited verse, poetry, and mnemonic literature. They enjoy reading the writings of Imperial peoples, which they like to rework into Aelan literature types in their free time. They are solitary, shun close contact with other races, and always seem somewhat homesick for the craggy cliffs and rock spires above the Glittering Floor. Allusions, metaphors, and similes are often expressed in terms of hunting or flight, such as 'I grasp your meaning,' 'I need to look down on that idea' or 'My soul feels wing-clipped'.

EQUIPMENT

The Ael Yael never developed sophisticated tools or weapons. They now have a few projectile weapons based on Imperial designs, but have never been comfortable with mechanisms that kill at a distance. Ael can handle human weapons, but suffer DM-2 when handling or firing a weapon not designed for their hands. When attacking, they prefer to leap several metres into the air and hover (when gravity and atmosphere permit flight), firing wildly all the while. They have difficulty firing from cover, both psychologically and anatomically.

Ael Yael require breathing apparatus to live on worlds with thin atmospheres, and flight is impossible for them in such environments. Vacc suits have been designed for Aels, but they can wear these only by folding their wings.

AEL YAEL TRAVELLERS

Travelling Ael feel they have a responsibility to the entire Ael Yael race. Except for a small living allowance, everything they earn is turned over to a planetary trust fund administered by the protectorate government on Jaeyelya. When an Ael signs up for a job, it will be with the good of the race in mind, and how they might be benefited.

Another quirk is a deep-seated distrust (sometimes hatred) of corporations and businesses throughout the Imperium, especially those involved in

mining or planetary exploitation. Experienced Aels (with SOC 9+) will understand that not all big business interests involve murder and genocide, but will never trust mercantile organisations or individuals unreservedly. They will join an enterprise sponsored by merchants or corporations only if they see very large rewards for their planet in accepting such a job.

If an Ael becomes aware of a situation where a culture is being exploited or victimised, they will without hesitation side with the wronged party and will work (secretly or openly) on their behalf.

These tendencies are strong enough that if faced with direct conflict (if, for instance, helping exploit a primitive people will greatly benefit their own world financially) an Ael Yael may suffer nervous collapse.

Characteristics
Ael Yael Travellers have the following modifiers applied to their characteristics: STR-1

SOC is treated differently for Ael Yael; it represents the Ael's experience off-planet. A low SOC indicates the Ael is inexperienced in the ways of interstellar culture and may make social gaffes or elementary mistakes.

Traits
Ael Yael Travellers all possess the following traits.

Dense Atmosphere Flyer: Aels can fly on worlds of Size 6- less with dense atmospheres. In standard atmospheres, or on worlds of Sizes 7- 8, they can glide from high elevations to lower ones, hover for a few seconds, or ride updrafts found alongside cliffs or within canyons.

Keen Awareness: Ael Yael receive DM+2 on Recon checks, due to the Ael's keen eyesight and habitual awareness of their surroundings.

Careers
Jaeyelya has a small militia army, but no planetary navy or marine service. An Ael who wishes a military background must join the Imperial services. DM-1 applies to all enlistment attempts due to the cultural differences encountered.

Ael Yael cannot join any mercantile organisation, due to their attitude towards business concerns. They cannot enter the Noble career.

Ael Yael receive DM+2 when attempting to join the Scouts.

When Ael musters out of a career, 90% of all cash benefits are immediately given to their homeworld's Planetary Development Fund. Only the remaining 10% is retained by the Traveller.

THE ARHIYAO CLAN

The Arhiyao are a minor Aslan clan, presented here to illustrate the political and territorial dynamics of a typical clan. They have holdings in Ranib subsector within the Trojan Reach. The Arhiyao can be used as a 'home clan' for Aslan Travellers, or as patrons or foes.

HISTORY

The Arhiyao are a young clan by Aslan standards. They cannot trace their lineage back to Kusyu; they have never been accounted among the Twenty-Nine Great Clans, nor were their glorious deeds recorded in the Grand Conclave. Their history begins during the Aslan Border Wars.

The Deeds of Klraiyo

The earliest account of an Arhiyao landholder is in 1733 (-563 Imperial), when a warrior named Arhiyaoaiftlaiyhruuhru is recorded as having seized the western islands of a world in the Reaver's Deep in a series of lightning raids. He captured a human warship and used it as his flagship in the Border Wars, launching surprise attacks on human-occupied worlds. According to the folk-tales of the clan, Arhiyaoaiftlaiyhruuhru possessed supernatural powers and was capable of teleporting and reading the minds of his enemies. He could 'step between the shadows' and bore the title 'Laughing Lightning-Ghost'. Descendants of Arhiyaoaiftlaiyhruuhru served honourably in the armies of several lords and vassals of the Hrasua but the sons of Arhiyaoaiftlaiyhruuhru never held enough territory to be accounted an independent clan.

In 2577 (209 Imperial), one of these descendants, Klraiyoarhiyaoaiftla-iyhruuhru, quarrelled with his Hrasua lord over a point of honour. Klraiyo and his followers hired a colony ship belonging to the Wahtoi clan and crossed the Great Rift. Klraiyo was accompanied by his new wife, a stolen female of the Hrasua line. The Hrasua have never forgotten nor forgiven this slight – for a vassal to kidnap a Hrasua bride is an insult that will burn longer than the stars. Further, Klraiyo lacked the money to pay for the colony vessel, so he and his followers had to indenture themselves to fight on behalf of the Wahtoi as soon as they arrived in the Trojan Reach. Although Klraiyo is recognised as the true founder of the Arhiyao clan, he is also a cautionary example. If Arhiyaoaiftlaiyhruuhru teaches his descendants to seize what they desire with cunning and ferocity, then Klraiyo shows they must consider what they desire carefully and not overreach.

The years immediately after crossing the Great Rift were hard ones for the young clan. The Wahtoi used Klraiyo and his followers as scouts and then as cannon fodder in their wars with Aroaye'i rivals. Of the 4,000 males

who followed Klraiyo into the Trojan Reach, no more than 800 survived the 50 years of indentured servitude. They had acquitted themselves heroically against the Aroaye'i in battle but all their victories were on behalf of the Wahtoi. Klraiyo was among those who died in battle under a Wahtoi banner but his twin sons Jaklraiyo and Hruklraiyo took up their father's cause and his dreams of a free clan. From him, they learned to dream and plot; from their Hrusua mother, they learned how to fight.

As soon as the 50 years of forced service were at an end, Hruklraiyo immediately declared war on the Wahtoi.

The Wahtoi, never a strong military clan, had come to depend on Klraiyo's followers as shock troops. Their own house armies were no match for Hruklraiyo's warriors and the Wahtoi were forced to cede the world of Uitasoayaw (0810/Ranib) to Hruklraiyo. With this much territory at his

command, Hruklraiyo was able to declare his followers an independent clan, the Arhiyao. Hruklraiyo became the first Arhiyaoko. Back in Hierate space, such a declaration would have been considered little more than a joke. The clan had less than 600 adult males, no money, no industrial base and no ships apart from a few battered and poorly-maintained scouts. They had a world but the two most influential clans in the region – the Wahtoi and the Aroaye'i – considered the Arhiyao to be enemies and one of the Twenty-Nine still held a blood feud with the new clan over the kidnapping of Klraiyo's bride. Back in Hierate space, the Arhiyao would have been put back in their place within a decade by some long-established traditionalist clan.

The Trojan Reach is a land of opportunity and new possibilities, though – even the possibility that such a weak clan could thrive. The Arhiyao had one advantage that their enemies had not considered and it was this advantage that would save them.

In the Imperium, the Scout Service is a notoriously dangerous occupation. Exploring the fringes of settled space, dealing with hostile environments or bizarre cultures, encountering alien races and inexplicable phenomena – it is a rare scout who survives for too long in the service. Such a rare scout almost always leaves the service a rich man, though, as a successful scout will know about mineral deposits and valuable alien plants or animals, rich worlds and alien relics, and potential short cuts and trade routes. The Arhiyao had been used as scouts by the Wahtoi for 50 years and had not shared all of their discoveries with their erstwhile masters.

The Arhiyaoko's twin brother, Jaklraiyo, became the clan envoy to the Aslan corporations who were eager to exploit the newly-discovered worlds in the Trojan Reach. Instead of repeating his father's mistake and tying the fortunes of the clan to a single master, Jaklraiyo (and his mates Kaaus and Ihkauiai, who are the unsung heroines of the Arhiyao's survival) played the corporations off against each other. Trading the location of a lanthanum deposit to one company got the Arhiyao more ships and weapons to fend off attackers; the secret of harvesting valuable biochemicals from a dangerous jungle planet got them the herdstocks and farming equipment they needed to survive.

Klraiyo died in battle under another clan's flag, having led his kin into near-slavery. One of his sons died in the great palace on Uitasoayaw, old, fat and surrounded by young wives and grandsons, surveying the vast territory under his claw. The other son vanished in a misjump aboard his custom vessel, the 1,000-ton *Salouwealryekha* but was accounted one of the wealthiest Aslan in the Reach before his disappearance.

THE WAHTOI STRIKE BACK

Over the next two centuries, the Arhiyao consolidated what they had won. Their population grew as they tamed Uitasoayaw and they maintained their reputation as excellent warriors, although advancing technology put their troops at a disadvantage against more powerful clans. Their trove of valuable secrets ran out as Aslan expansion in the Trojan Reach went past the borders they had scouted but the clan continued to send scout ships out into unexplored space and worked with the trade corporations in exploiting new worlds.

After a generation's work, Uitasoayaw was a usable agricultural world. They seeded the planet with Kusyuan bacteria and built huge automated factories to subtly adjust the atmosphere. Livestock purchased from the corporations were set loose and within a decade of colonisation the Arhiyaoko was able to hunt aua'ka through the young forests. The planet was unremarkable in terms of resources, though, and the Arhiyao were rapidly falling behind the technological development of other clans. This technological gap would prove devastating to the clan's fortunes.

In the Hierate, the Great Clans invariably possess the most advanced technology, as they have the resources to pour money into research. New developments are then passed on to their vassal clans in exchange for service. The Arhiyao were independent for centuries and both their previous suzerains were hostile to them. While the rest of the Hierate pushed towards TL13, the Arhiyao were slipping back towards TL9.

In 2660 (282 Imperial), Uitasoayaw was attacked by Wahtoi forces. The Wahtoi were accompanied by mercenaries and ihatei bands. As soon as the Wahtoi fleet jumped in, their envoy informed the Arhiyaoko that the two clans were now at war – a limited war for control of Uitasoayaw's fertile western continent and spaceport.

The Wahtoi had significant advantages both on the battlefield and in the initial challenge – as they already had ships in the system, they could force the *earleatrais* to accept that space forces would be part of the conflict. The Arhiyao had few warships and nothing that could defeat the considerably more advanced Wahtoi ships. On the ground, the Arhiyao warriors were better trained and had more stomach for battle than their foes but were using *yeheal* autorifles against *wye'oiheasarl* plasma cannons.

The war lasted six weeks. The Wahtoi and their allies suffered more losses than they anticipated but the *earleatrais* declared them the victors nonetheless. Over a third of the territory on the Arhiyao homeworld was seized by the invaders. The shame led the current Arhiyaoko to commit ritual suicide, passing the leadership of the clan to the next generation.

Over the next decade, the clan rebuilt its military forces and sought out allies. One of these alliances would lead to the reclamation of Uitasoayaw and the rise of the Arhiyao; the other would nearly destroy them.

The first of these new allies was the Tru'shan, another offshoot of the once mighty Trui'kt. The Tru'shan faction hived off from the larger clan during the Cultural Purge; they were a clan of scientists and researchers who advocated the use of robots in battle instead of risking Aslan lives. The fundamentalist *khiraokhaor'ya* clans wiped out the Tru'shan drone armies in a series of apocalyptic battles, forcing the Tru'shan to flee Hierate space. The Tru'shan established a new colony on Ewyeyal in the Silraaihe subsector but were isolated from the rest of the Aslan. Most of the clans in that region were on the *khiraokhaor'ya* during the civil war, while the Tru'shan were tainted by their *tseyko* roots. The Tru'shan were pariahs but they were pariahs with advanced technology and a formidable industrial base.

The Arhiyao offered to act as intermediaries, reselling Tru'shan technology to *khiraokhaor'ya* clans. A new corporation, the *Ekhoaoiarl* (Brother-Making Commercial Endeavour) was founded to pursue this trade. The Arhiyao owned a third of the shares, the Tru'shan another third and the final third was traded openly on the Aslan markets (but most of these shares were quickly purchased by Arhiyao traders).

The income from the company allowed the clan to pursue even greater fortunes. The nearby world of Hkakh, a marginally habitable frozen world, was colonised and established as a trade nexus. Hkakh freeport, with its state-of-the-art spaceport, its automated cargo handling and its regular security patrols made it attractive to the growing number of traders passing through the Ranib subsector on their way to the Imperium. The company expanded quickly; from its foundation of trading solely in Tru'shan technology, it diversified into dust-spice, terraforming technology, agricultural products and cosmetics.

The second alliance was with the Glorious Empire. Like the Tru'shan, the Aslan of the Glorious Empire were unable to trade freely with the Hierate. The Arhiyao offered them a back door into the Hierate market, in exchange for military support and a sizeable share of the profits. It was not smuggling per se but certainly skirted the boundaries of both legality and honour.

An alliance with the Glorious Empire was extremely controversial within the clan but the Arhiyaoko's word was law. The Arhiyaoko of the period was a young warrior named Khtoarlyu, the Steel Cat, who lost an eye and

both legs during the battles for Uitasoayaw. He was fitted with Tru'shan-built cybernetics to restore his strength and for the rest of his life he was accompanied everywhere by Tru'shan technician-maidens to maintain and adjust his machine parts.

The second war for Uitasoayaw saw a combination of Arhiyao and Glorious Empire troops descend on the Wahtoi territories like fiery tigers. The Wahtoi crumbled and fled into space; the new Tru'shan-built Arhiyao fleets pursued them and the war ended with the Wahtoi ceding the world of Ehaealir to the Arhiyao.

THE GLORIOUS EMPIRE

The clan's alliance with the Glorious Empire was always going to be a troublesome one. Ever since the Tokouea'we clan broke away from the Aslan Hierate, conflicts and territorial wars were virtually constant along the border. The Ahriyao approached the Glorious Empire during a time of comparative peace but soon the wars started up again.

The Ahriyao were under no legal obligation to send warriors to fight on either side but they were dragged into the conflict anyway. The *Ekhoaoiarl* company freighters needed escorts if they were to continue trading with the Empire. Often, these escorts were attacked by Hierate forces from the Wahtoi or a Hrusua-related clan, as old enemies of the Ahriyao took the opportunity to inflict some damage on the clan. Other attacks were from previously neutral clans who objected to any trade with the Glorious Empire.

The clan was bitterly divided between those who believed that the alliance with the Glorious Empire was a mistake and those who argued that the clan must hold true to its word, no matter what the cost. The Tru'shan and the executive board of the *Ekhoaoiarl* both added their voices to those arguing against the alliance but the aging Khtoarlyu, still *ko* of the clan, refused to contemplate any diminishment of the clan's ties to the Empire, even when it became clear that the alliance had ceased to be a benefit and was now an invitation to war to any clan with a grudge against the Empire.

In 3066 (604 Imperial), Khtoarlyu was murdered by an assassin. The two strongest candidates for *ko* were Sauhkesi, the commander of the clan's space fleet, and Yahefiy, the wealthiest and most powerful male on Hkakh.

Sauhkesi was young to be considered for *ko* but his prowess in space combat had won him great honour. He was a strong advocate of the alliance and considered the Glorious Empire to be the model that future Aslan clans in the Trojan Reach should follow. The weak human worlds of the sector begged to be conquered and the clan who reached out and put them under the claw would be invincible! He was an honoured friend of the Glorious Empire and even hunted with the Glorious Empire in the palace gardens on Syoukh.

Yahefiy was a great landowner, who counted most of Hkakh as his personal fiefdom. Three of his wives were on the board of the Ekhoaoiarl, while his sons were powerful generals and captains in the clan's armed forces. Yahefiy was seen by most as Khtoarlyu's inevitable successor, a safe pair of claws to guide the clan into a brighter future.

The two fought a bloody duel on Uitasoayaw and the elder Yahefiy was the victor. Rather than accept his new lord, Sauhkesi accused him of being behind the assassination of Khtoarlyu. Yahefiy countered by claiming that a secret war of assassins had been declared months earlier by the Hrakoea, blood-kin of the Hrasua and so therefore another traditional enemy of the Ahriyao. The Hrakoea were also among the clans attacking the Glorious Empire.

Sauhkesi returned to his ship and jumped away. Yahefiy's first act as *ko* was to break the alliance with the Glorious Empire and add the forces of the Ahriyao to the war.

Surprisingly, Sauhkesi agreed to lead the invasion force, striking at his former friends with all the fury of an Aslan warrior.

Within months, the clan had their first victory over their erstwhile 'allies'. The world of Souftea in Nora'a subsector was ceded to the Arhiyao by the Glorious Empire after a shockingly brief war. The Glorious Empire commander at Souftea surrendered directly to Sauhkesi, who took possession of the world. The human slave population of Souftea, numbering some three million, were abandoned to their new Arhiyao overlord.

The conflict with the Glorious Empire rumbled on for another four decades but as the advancing borders of the Hierate pushed the war zone out of easy reach of Ahriyao forces, the clan's involvement in the war diminished. An uneasy peace lasted for the remainder of Yahefiy's reign.

RECENT TROUBLES

While the Ahriyao claim four worlds as theirs, only the well-established planets of Uitasoayaw and Hkakh are the clan's core territory. Ehaealir is shared with several other clans, most of whom have more resources than that Ahriyao. Souftea is wholly owned by the clan – or, more accurately, the pride of Sauhkesi, who treat the world as their private fiefdom and have only limited contact with the rest of the clan.

In 3618 (1089 Imperial), some 20 years ago, three warships from the clan's space forces vanished near the Glorious Empire. These three vessels – two *Aositaoh*-class cruisers and one *Halaheike*-class pocket warship – were all under the command of officers from Souftea. An investigation into the disappearance revealed no signs of sabotage or hostile forces operating nearby. Either all three vessels simultaneously misjumped or they defected to the Glorious Empire.

The Tru'shan clan is undergoing its own internal difficulties. A blight on their homeworld of Ewyeyal has destroyed much of their food production capability, forcing them to trade for basic foodstuffs via the Ekhoaoiarl. Unless a cure for the blight is found, the Tru'shan economy may collapse or they may be conquered by another clan who can feed their citizens.

CLAN STRUCTURE

The clan Ahriyao numbers some 29 million Aslan, divided between seven major prides who make up the aristocratic tier of the clan (and hold most of the territory) and another four dozen lesser prides. The head of the Ahriyao pride is the Ahriyaoko – the dominance of the Ahriyao pride has gone virtually unchallenged throughout the clan's history, with only a few exceptions such as the Yahefiy dynasty that ruled for three generations.

The seven major prides are as follows.

▶ Ahriyao Pride

The oldest of the prides, the families of the Ahriyao can trace their lineage back to Arhiyaoaiftlaiyhruuhru himself. They hold the territory in the east of Uitasoayaw. The Ahriyao are traditionally the leaders of the clan and even when they are out of power, they wield considerable influence over the clan's politics. Most of the clan's priests, envoys and poets come from this pride and the current Ahriyaoko is from this bloodline.

Homeworld: Uitasoayaw
Strengths: Territory, Tradition, Politics

▶ Yahefiy Pride

Originally a family within the Fiyatrusha, the Yahefiy broke off from the older pride when Yahefiy became the Ahriyaoko and moved his family and holdings to the world of Uitasoayaw. The Yahefiy are the Young Turks of the clan and are the most ambitious and aggressive of the families. They are feuding with the Sauhkesi and are closely allied with the Arhiyao through intermarriage. They have eclipsed their former kin, the Fiyatrusha and today the two prides have little in common.

While the head of the pride dwells on Uitasoayaw, the family still has extensive holdings on Hkakh.

Homeworld: Uitasaoyaw
Strengths: Wealth, Territory, Military

▶ Sauhkesi Pride

The Sauhkesi rose to prominence within a single generation. Their founder, Sauhkesi, was born to a landless awkhea family. He managed to win a place in the space service, where his genius for military tactics and lust for conquest won him great honour. When the ahriyaoko died, Sauhkesi was able to mount a serious claim for the clanship. When Sauhkesi was defeated by Yahefiy, he returned to space and followed the clan leader's command to make war on the Glorious Empire. He conquered the world of Souftea from the Glorious Empire and claimed it as his own. The pride of Sauhkesi has held that world ever since. The ruling family of the Sauhkesi

are of Sauhkesi's own bloodline; the other families are the descendants of his loyal crew.

The Sauhkesi are mistrusted by most of the other families. They are seen as isolated and strange and have little contact with the rest of the clan. Their culture is closer to that of the Glorious Empire than the Hierate. In effect, the Sauhkesi are a clan within a clan and some fear that it is only a matter of time before the Sauhkesi leave the clan – or are driven out. The thought of a Sauhkesi claiming the clanship is a dreadful one to the Ahriyao and Yahefiy prides.

Homeworld: Sauftea
Strengths: Territory, Military, Slave Labour

Jaklraiyo Pride

This pride claim descent from one of the explorers who started the clan's tradition of scouting. The Jaklraiyo are explorers still but they also have considerable interests in the clan's trade and diplomatic circles. The Jaklraiyo have only minimal territories, which means they will never be contenders for the political leadership of the clan but they are immensely wealthy. The Jaklraiyo traditionally support the Ahriyaoko in most matters but have played kingmaker in the past, throwing their wealth and power behind a challenger from the Yahefiy or Haurenahar.

The Jaklraiyo are peacemakers and pragmatists; they have argued against expanding the clan's holdings, arguing that the clan lacks the military resources to hold another world.

Homeworld: Uitasoayaw
Strengths: Space Fleet, Wealth, Trade

Haurenahar Pride

The Haurenahar are another branch of the Ahriyao. The pride was founded when the clan conquered Ehaealir. They are somewhat isolated from the rest of the clan and see themselves as above the petty squabbles of the Ahriyao, Yahefiy and Sauhkesi. The Haurenahar have a strong military tradition and agitate for the clan to improve its space fleet and expand once more.

Homeworld: Eheaalir
Strengths: Territory, Military, Trade

Fiyatrusha Pride

The Fiyatrusha Pride was born of a political marriage between elements of the Ahriyao and the Tru'shan clan and they have inherited the technological aptitude of their Tru'shan forebears. The Fiyatrusha produce the most skilled technicians and scientists of the clan and are the backbone of the

clan's spacefleet. The Fiyatrusha's htahyu (clan stronghold) is in orbit of Hkakh; it is a huge habitat, more than 600 years old and supporting more than 10,000 Aslan. It is the clan's primary shipyard.

The pride has always harboured ambitions of greater influence (and the Tru'shan clan would very much like to see their kin rise to command the Ahriyao clan) but lacks both the territory and the warrior spirit to win such power.

Homeworld: Hkakh
Strengths: Technology, Trade

▶ Ahriusha Pride

This pride is almost as old as the clan but has never been close to power. The Ahriusha families are the descendants of the warriors who accompanied Klraiyo across the Great Rift. They are the backbone of the clan's military and have a considerable amount of territory on all four of the clan's worlds but the pride is too divided to mount a serious challenge for the leadership. The rest of the clan keeps playing Ahriusha families against each other; there are Ahriusha who are sworn to support the Ahriyao and the Fiyatrusha and the Yahefiy and even the Sauhkesi.

Homeworld: Uitasoayaw
Strengths: Territory, Military, Population

POLITICS

Internal politics within the Ahriyao is cut-throat in a restrained way. In other clans, the fight to determine which pride will dominate the clan is a brutal, bloody one and any of a half-dozen strong prides could rise to rule over the rest. The Ahriyao are a small clan and (a few rare examples notwithstanding) the Ahriyao family of Ahriyao Pride rules over the Ahriyao clan. The major political struggle, then, is between the Yahefiy warriors and the Jaklraiyo merchants for control of the clan's direction. When the clan goes to war, the Yahefiy grow in power; when it is peaceful, the Jaklraiyo benefit.

The other prides have their own limited interests and switch their support between the two major prides as circumstances dictate. The Sauhkesi are always on the fringes of clan politics – no pride likes them but they are powerful enough to be cultivated as allies.

MILITARY FORCES

The clan is too small to support any capital ships, so the Ahriyao specialise in smaller, more agile forces. They have significant numbers of Ekawsiykua escorts for light duties and local defence, augmented by

monitor ships. The clan possesses two dozen Aositaoh cruisers and ten Halaheike warships. Their ground forces number some 30,000 warriors.

WORLDS

Uitasoayaw (B579687-9, Ni) is the oldest of the clan's planets. It is a poor and unremarkable world. Its native biosphere was wiped out by the Aslan terraforming efforts, although aborigine flora still persists in isolated regions. To most visitors, Uitasoayaw has nothing to recommend it except for breathable air and the capital city of Yairtyrl but to the Ahriyao, this is the promised world that their ancestors fought for.

Hkakh (A424546-E, Ni) is a frozen ice ball but beneath the ice are rich reserves of iron and other metals. Orbital factories produce the majority of the clan's industrial goods and starships. Hkakh is situated on a major trade route and is the seat of the Ekhoaoiarl Corporation, which has been the economic engine that drives the clan. However, a controlling interest in the company's stock has recently been acquired by the Tokohfealr clan in a hostile takeover bid. The intrusive presence of the Tokohfealr has begun to cause tensions that threaten to boil over into a full-blown clan war with the Arhiyao. Hkakh is a hellish place to live – the major cities are all under domes of packed ice and most homes are in old mining tunnels. The Aslan of Hkakh are miserable, denied the wide open spaces and hunting grounds their blood calls out for.

Ehaealir (B63657B-9, Ni) is right on the border of the Glorious Empire and is regularly attacked by slaver ships. The clan's holdings there are in the Mountains of Glass. There is a sizeable human population on Ehaealir; tribes of wild humans live in the foothills, driven back to a primitive level of development to survive the slavers.

Souftea (A551754-D, Po) is a small, nearly airless moon but was heavily industrialised by the Glorious Empire. The factories of Souftea are as productive as those of Hkakh (possibly more so, although there are rumours that the Sauhkesi use slave labour in the underground mills). The Sauhkesi want clan funding to expand the old shipyards in orbit of the moon, upgrading them to allow the construction of warships. So far, this proposal has been blocked in the clan council by the Yahefiy but the Haurenahar believe it is the best way to secure the coreward frontier.

IMPORTANT CHARACTERS

The Ahriyaoko today is an elderly male of the Ahriyao family. His mind is fraying and he is rumoured to be increasingly paranoid about the clan's ancient foes, the Hrasua. His youngest wife, G'aulai of the Yahefiy has taken over more and more of her husband's duties.

Snow Plains

The most influential voice on the board of Ekhoaoiarl is another female, Iwala. She believes that the clan has grown stale and needs to invest in explorers and free traders to bring in new opportunities. The unexplored and untamed sections of the Trojan Reach hold the future of the clan and she is looking for ambitious young cubs to sponsor. Unusually for a female in her position, she has not yet taken a siyajkhoara oath to remain unmarried.

Plains

Mithril Taiga

The commander of the clan's space fleet is Yesyakhei of the Ahriyao but many in the navy believe that young captain Tolirah – the victor at Uao, the warrior who slew the pirate queen Khitlaa – is the true leader of the clan's military forces. Tolirah is an inspiring leader and a brilliant tactician – but he is Sauhkesi, so the clan's elders mistrust him.

ADVENTURE IDEAS

The Tru'shan Famine: The Tru'shan clan are on the brink of famine. An Arhiyao researcher just discovered that a new form of plant engineered by Syoisuis scientists will thrive on the Tru'shan worlds. If this plant can be obtained, then the famine can be averted. The Travellers must acquire these seeds, by fair means or foul, before the Tru'shan starve or some other clan uses the seeds to drive a wedge between the Ahriyao and their allies.

Civil War on Ehlaealir: The border world of Ehlaealir breaks down into civil war. The Ahriyao clan's holdings on that world are secure and easy to defend, so the war poses little threat to them. Militant leaders in the clan suggest that this is the time to go on the offensive, to take territory from other clans – but what if the Glorious Empire takes this opportunity to attack?

New Frontier: The Ekhoaoiarl want to begin trading directly with the Florian League and to do that they need to establish a waystation somewhere in Yggdrasil or Dpres subsector. The Travellers are given a scout ship and sent to find a good colony world.

PRIDE OF THE LION

Location: Thor (D669577-5) Yggdrasil Subsector, Trojan Reach

THOR

Thor is a distinctly unimportant world located on an offshoot of the Dustbelt, or Sindalian Main. Most traffic along the main uses the primary route into Florian space, bypassing Thor and nearby worlds. As a result, Thor is very much a backwater, with a few hundred thousand inhabitants divided up among various micro-states.

The world has a breathable atmosphere but little useable land. Most of what does exist forms the grandly named Continent of Grizel; the remainder is scattered about the globe as small island chains. Grizel is home to most of the world's population and its low-quality starport. Few offworlders visit Grizel; almost none have set foot elsewhere in the world.

The primary industry on Thor is ranching, with meat and animal products making up the majority of the world's exports. Various beasts are herded, but the most common is the Kundbock, a large grazing animal found on several worlds in the Reach. Kundbock ranches are scattered all over Grizel, each one essentially a tiny kingdom ruled by its owner.

There are a few towns and one decent-sized city on the continent of Grizel, but it is the ranchers who hold real power as they control the economy and employ the largest proportion of the population. The towns exist mainly to provide technological functions and support industries for the surrounding ranches, and their administrative councils are kept in their place by the ranch bosses. As a result, governance is highly fragmented – which suits the ranchers' agenda and is unlikely to change.

In recent years, groups of Aslan ihatei have set up communities on the continent of Grizel. For the most part they have caused little trouble; they behave a lot like the ranchers and there is plenty of land to spare. Conflict, when it has occurred, has been localised and is as likely to result from friction between rather arrogant leaders (of both groups) than competition for resources.

THE SITUATION

The Travellers are expecting to leave Thor sometime soon when they are approached by Martin Trelane. Trelane is apparently a bit drunk, and rambles awkwardly for a while about a problem he has. Clearly he needs

Thor
Yggdrasil subsector

Secure System
Amber Zone
★ Imperial Naval Base

0811
ODIN
B-8
B20149B-8

0713
ZIMT
C-9
C547546-9

0813
THOR
D-5
D669577-5

0914
SOLARIA
B-8
B665734-8

1114
GABRIEL
C-B
C310100-B

0614
BORONU
B-A
B966741-A

0915
DPRES
B-A
B631689-A

1015
CONNAUGHT
D-9
D431153-9

0815
YGGDRASIL
B-8
B5507CD-8

0716
FORANDIN
B-9
BA89646-9
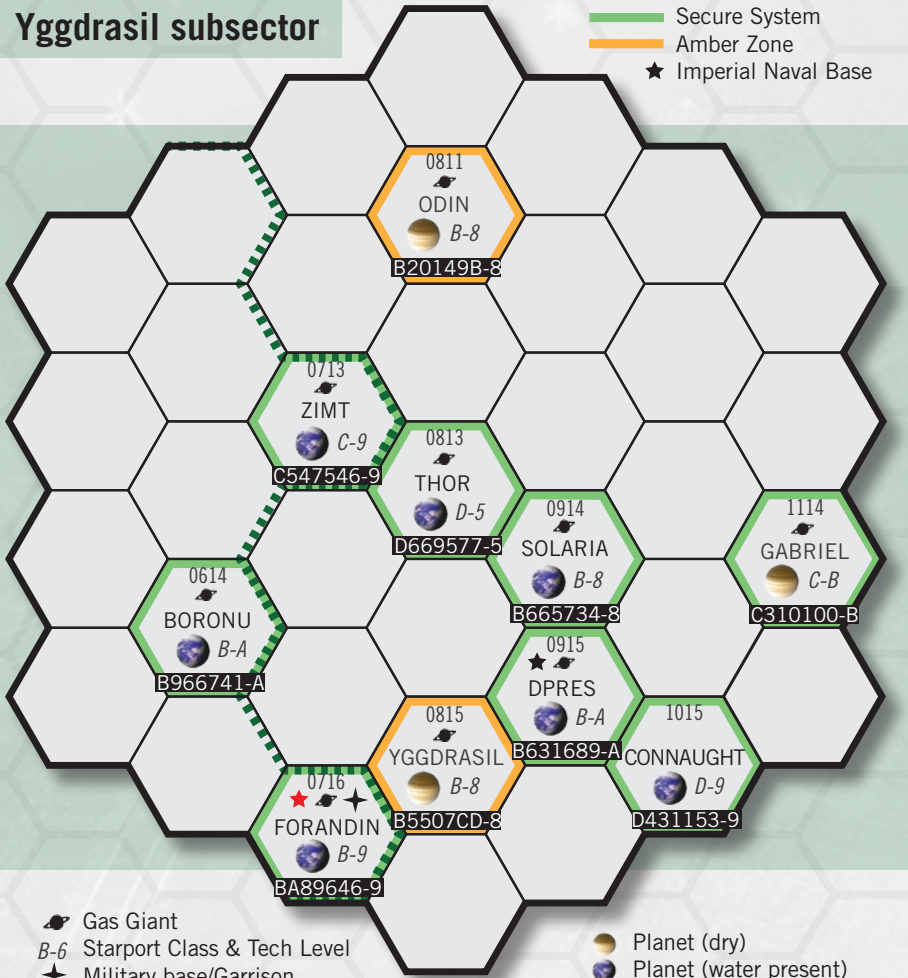
Gas Giant
B-6 Starport Class & Tech Level
✦ Military base/Garrison

Planet (dry)
Planet (water present)
★ Other Naval/Tlauku Base

help but is finding it difficult to ask – which is in character for him – or else he is being evasive for some reason. Trelane eventually admits he has a serious problem he cannot solve himself, and asks for help. He makes vague promises about owing the Travellers and making sure they are rewarded, but will not be drawn on what he needs. He does confess that the situation is dangerous.

During the frustrating and awkward conversation with Trelane, it becomes apparent that he is indeed intoxicated, but not just with alcohol. He has taken a large does of pain medication, which is now wearing off. As it

does, it becomes clear he is hurt. In fact Trelane has a pistol bullet in his side. The wound is covered by a bandage but has not been properly treated and will begin to leak blood through his shirt.

Trelane eventually explains that he became friendly with an ihatei leader named Ewyryhu, assisting him in peacefully obtaining more land by purchase and trade in return for assistance to some of the local ranchers who were struggling. He became well-respected and was considered a member of Ewyryhu's ihatei band – a rare honour for a non-Aslan.

Recently, one of Ewyryhu's sons sent a message to his father that one of the Grizel ranches was available for sale, but the rancher insisted upon dealing with Ewyryhu directly. The situation seemed to be above board, but in fact was a trap. An old enemy of Ewyryhu, a human named Charles Marchand, has lured the ihatei leader to the ranch and plans to kill his entire family.

Trelane wants help to rescue his friend. He is aware that there are those who despise ihatei and would disapprove of anyone helping them, but Ewyryhu is an honourable man who deserves better. As for Marchand, it is true that Ewyryhu once clawed his eye out, but he had it coming.

EWYRYHU AND MARCHAND

When Ewyryhu was a young mercenary working on the Imperial frontiers, he encountered a naval flight officer named Charles Marchand, a wealthy and arrogant young human who particularly disliked two groups – mercenaries and non-humans. Ewyryhu tolerated him as best he could, but eventually reacted angrily to a racial insult. Ewyryhu struck Marchand across the face with claws fully extended, laying flesh open to the bone and destroying Marchand's right eye.

No action was taken against the Aslan, since all the witnesses agreed Marchand provoked the incident and attempting to punish Ewyryhu could have wider implications given how difficult relations were with the Aslan Hierate at that time. Marchand's career as a fighter pilot was curtailed by his injury. He marked time in a navy desk job until, to his great surprise, he fell sole heir to a ranch on Thor which had been owned by a distant relative.

Marchand had spent many hours plotting revenge against Ewyryhu, but never expected to have the chance to strike back. Then, out of the blue, he found himself owning property next door to his enemy. Learning that Ewyryhu was buying up nearby land, Marchand made it known that the new owner of his ranch did not intend to settle on Thor and wanted a quick sale.

Ewyryhu's son had never heard of Charles Marchand, and was taken in by what appeared to be a genuine offer. His advisors told him the price was about right; the land was good and its herds healthy. He went with a small party of assistants to view the property, and was impressed enough to suggest his father take a look in person. Ewyryhu and his entourage were ambushed with tranq gas and stunners, and taken prisoner.

Marchand's plan is simple. They will be released in the wilds of Grizel without weapons or supplies, and given one hour to do whatever they please. After that, he will hunt them and kill them all. He knows no action will be taken so long as the Aslan are on his land; they will be considered intruders and thus subject to the ranch owner's justice. If Ewyryhu and his entourage can get off Marchand's land they may or may not be safe, but Trelane knows they have no chance of crossing a hundred kilometres of wilderness on foot before Marchand hunts them down.

For his part, Trelane was with his friend and captured alongside him; Marchand's twisted sense of honour prompted him to give Trelane a chance to walk away and save himself. Instead, he jumped one of the guards, taking a bullet in the process, and dragged a young female Aslan named Kiri into a nearby air/raft. They managed to escape, and he is now seeking any help he can get. Ewyryhu will be grateful for any assistance the Travellers can offer, but Trelane cannot promise any particular reward. He intends to go back and try to rescue his friends whether or not the Travellers agree to help him.

KIRI AND TRELANE

Kiri is a juvenile female Aslan – about as non-combatant as someone can be. She is hiding nearby, armed with a half-empty revolver Trelane took from a guard. She, the air/raft, and this gun are all Trelane has to work with. What Trelane has not told the Travellers is that Kiri is Ewyryhu's daughter, and although young she knows her duty as a member of his household. She would only fight in desperate self-defence but if given a technical or organisational task to perform she will carry it out with a zeal rarely seen in human juveniles.

Martin Trelane's mental state may be important as events unfold. When he fled, he was reacting as a human; the Aslan instinct would have been to stay and die with his pride leader. He worries that Ewyryhu will consider him to have deserted, and he may be correct in this. He veers between a desperate conviction that he must save his friend and despair he may have already disgraced himself and nothing he does will have any meaning.

Trelane is not bleeding seriously, but his wound will eventually incapacitate or kill him unless properly treated. He will resist offers to treat the injury, saying there is no time. Pointing out that he may die will not sway him; he does not care at this point. The only argument he will listen to is that his collapse at an inconvenient moment might wreck the entire rescue even this must be couched in terms that make sense to Trelane at this

MAP OF THE RANCH
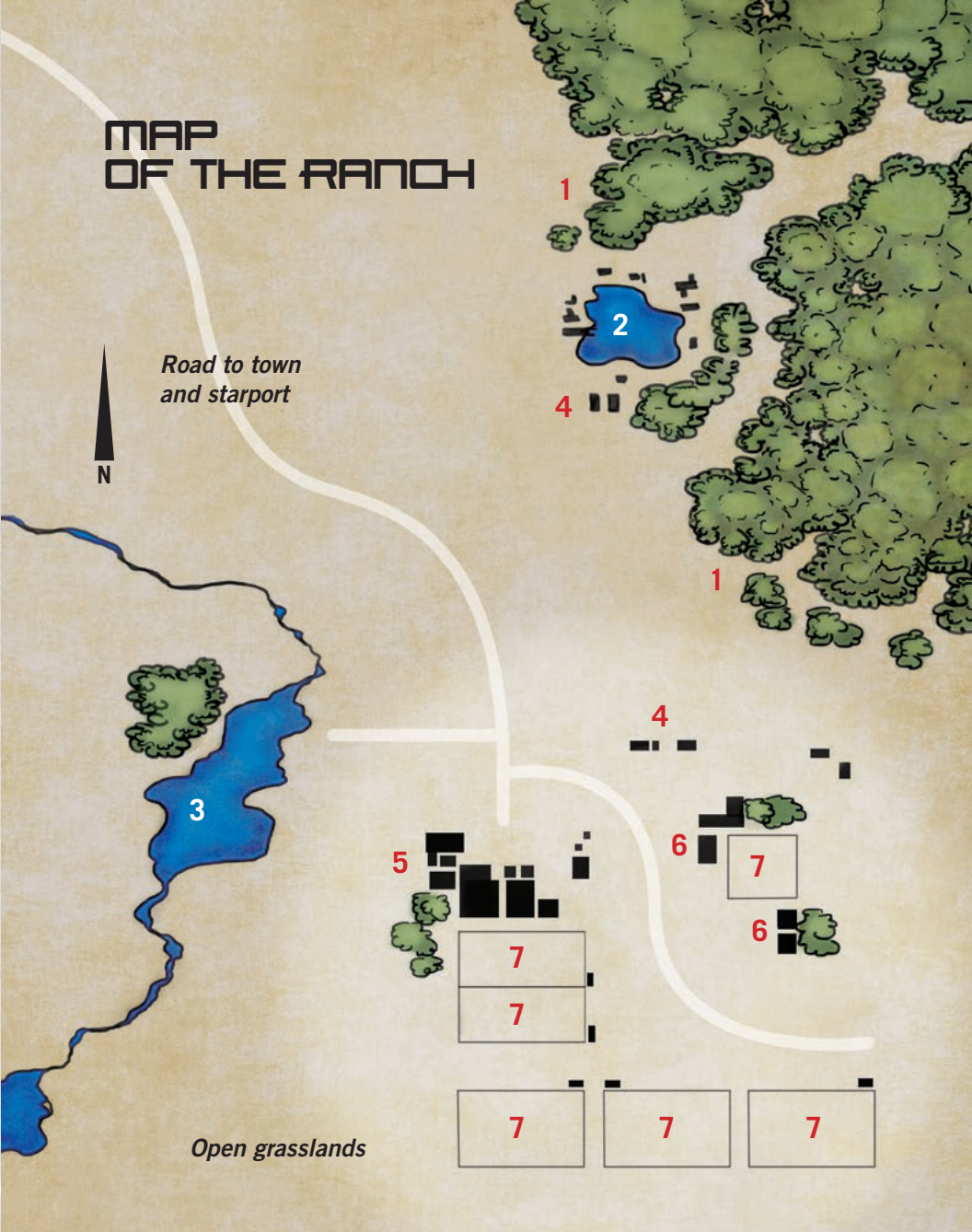
Road to town and starport

N

1

2

4

1

4

3

5

7

7

6

7

6

7

7

7

Open grasslands

LEGEND

1. Wood
2. Reservoir and Ranch ammenities
3. Lake
4. Herdsman cottages
5. Main ranch buildings
6. Ranch ammenities
7. Livestock enclosures

time – failing in the rescue is no more a disgrace than running away in the first place, and he does not dare hope for redemption in the eyes of Ewyryhu. He can be convinced by suggestions that he can still help his friend whatever the outcome for Trelane himself might be.

THE HUNT

Marchand is holding Ewyryhu along with his wife/estates manager Lrowyie and their son Ktiskryhu. The latter was pretty thoroughly worked over by Marchand. There were also two guards, one injured and the other dead. All survivors can use weapons if they become available, thought they will be unlikely to think of fashioning makeshift spears or bows.

Marchand plans to release his captives at dawn, then give them an hour before commencing his hunt. His ranch is about 450 km from the starport, taking the form of a rough circle four hundred kilometres across with the house at its centre, mostly open grassland with some woods and a small lake. Herds of kundbock wander freely and there is a lot of other wildlife to confuse thermal sensors. Herdsmen live in small cottages here and there on the estate and might be out and about – Marchand has not troubled himself to warn them of what is about to happen.

The ranch house is of stone construction. It was not built with security or defence in mind, but would still be a formidable obstacle. In the garage are several vehicles including wheeled trucks, three air/rafts, and a grav car with nosemounted laser rifle which the Marchand guards call 'Charlie's toy starfighter' when the boss cannot hear (see the g/runner city car on page 127 of the *Vehicle Handbook*).

Marchand's hunting party will consist of himself and eleven others, armed with rifles and pistols, in the three air/rafts, well-stocked with food and cold beer. Marchand has offered cash prizes for 'good kills'. He wants Ewyryhu for himself, of course, and intends to kill the pride leader last at close range. The hunting party will not hesitate to kill anyone who interferes, and is unlikely to face any sort of legal action if they shoot intruders on the estate – Aslan or human.

THE RESCUE

If the Travellers can reach the house before dawn they may be able to somehow get the captives out. They are bound and will be carefully guarded. A little before dawn they will be loaded into a wheeled truck and driven a few kilometres up the road. Marchand follows in his grav car and watches the release before rushing back to the house to savour the occasion with his followers. After a little more than an hour the hunting party sets out. They will try a variety of methods to kill the Aslan, including dismounting to snipe at them with rifles or firing from air/rafts making a low pass.
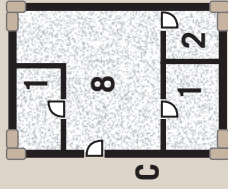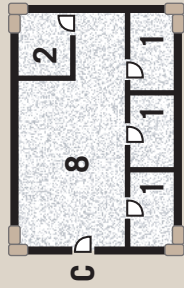
RANCH AMENITIES

1. Bedroom
2. Bathroom
3. Lounge
4. Dining area

5. Conservatory
6. Kitchen
7. General use room
8. Living/dining area

A. Garage with trucks, air/rafts & grav car
B. Basic workshop
C. Staff cottage
D. Main building
E. Guest wing
F. Equipment/supply store
G. Building extension
H. Shed

N

Marchand wants to frighten and demoralise the Aslan before killing them, and intends to pick off Ewyryhu's family before finally confronting him. This will not be a fair exchange of course; ideally he wants the Aslan wounded and weak before gunning him down with a pistol. He is adamant that he wants to watch Ewyryhu die, and for him to know who took his life.

This will create some opportunities for the Travellers. They may be able to tackle some of the hunters whilst they are setting up an ambush, hoping their fellows will drive the Aslan onto their guns. The Travellers might even be able to extract the Aslan before the hunters find them, leaving Marchand wandering around in the wilderness.

However, there are complications. The 'hunt,' totally unfair as it is, has become a matter of personal honour between Ewyryhu and Marchand. Ewyryhu may insist on chasing the hunters down and killing them all rather than retreating to get reinforcements. He may even resent Trelane for bringing reinforcements, as if this casts doubt on his ability to protect his people. His wife Lrowyie is more pragmatic, but is most definitely a subordinate and can only challenge her husband so far.

The Travellers may have to confront Marchand and/or fight his men. They are quite willing to take part in the hunt – like many others living on the Sindalian Main they have no love for ihatei – but they are not devoted to Marchand. They will save themselves rather than taking grave risks to protect him, and abandon the hunt if he is killed. If so, the workers will retreat to the ranch house and call for help from other ranchers nearby. That could create a new set of problems for the Travellers.

If the rescue succeeds, the Travellers will be rewarded. This may be grudging and condescending, or Ewyryhu may declare them friends of his ihatei band for life, depending on circumstances. Likewise, his attitude to Trelane could be anything from hostility to lauding him as a hero. Aslan have many tales of heroes who fought to the last alongside their clan lord for honour, but there are also stories of wounded warriors who crawled away to seek help they could not provide themselves. If Ewyryhu knows Trelane was wounded when he fled and still managed to save Kiri, this will make his opinion vastly more positive.

It is possible that the Aslan will want to hunt down the would-be hunters, and if they feel positive towards the Travellers an invitation will be extended. It would be an affront to Ewyryhu to turn this down, but agreeing means essentially plotting ambush and murder.

SMAETAL SWARMS

Smaetal swarmers, popularly known as smaets, minnies, and pirhana bugs, are an extremely small, flying life form native to Smaeta, near the Imperial core, but now found infrequently on countless humid, tropical environments on worlds across the Imperium. They are commonly spread by tramp freighters and merchant vessels carrying consignments of tropical fruit, and control of these and similar pests is a major concern of port and customs officials everywhere.

Each adult smaet weighs less than .1 gram, and has a wingspan of less than 1 centimetre. They are generally encountered as an upright, pillar-shaped cloud, about 2 metres high, which drifts just above the ground. One cloud may contain over 50,000 individuals.

Smaets have a rather complicated reproductive cycle. The eggs, which are laid by the thousands on unripe fruit, seem to mature and develop as the fruit ripens, drawing on the fruit's internal chemistry in some fashion. Various methods of preserving or delaying the ripening of the fruit seem only to delay the maturation of the eggs. The actual incubation period is uncertain, and highly variable. When the eggs hatch, the tiny, winged reproductive phase of the creature burrows out, and joins the local, rapidly growing swarm.

Smaets are carnivores. The cloud will approach any homeothermic life form of more than 50 kg mass at the speed of a human running. A single bite is no more than an annoying pinprick, but thousands of bites in the space of a few moments can be deadly, and smaets are classified as dangerous life forms.

After several feedings over a lifetime of a few weeks, the smaet cloud begins to break up as individual creatures die. For some reason yet unknown, some seventy to ninety individuals in each cloud survive the swarm's death. They attach themselves to the exposed roots of certain fruit trees, shed their wings, and begin burrowing into the roots. After an uncertain period of time, the smaet enters a metamorphic pupal stage, buried within the tree's root.

After as long as ten years, the organism emerges as a clumsy, winged creature which proceeds to lay hundreds of eggs on the soft portions of

the tree; leaves, flowers, ripening fruit, etc. This egg-laying form does not eat, and lives only long enough to lay its eggs. If the eggs are laid on a soft-skinned fruit, the smaet will be able to deposit eggs just under the skin, where they will be practically undetectable.

It is believed that the swarming phase of the smaet life cycle is when genetic material is exchanged. Smaets appear to be hermaphrodite, but the nature of gene exchange is not clearly established. Understandably, there has been some difficulty observing this life form closely enough to ascertain details of reproduction.

The primary means by which these creatures spread from world to world is in uninspected or improperly inspected cargoes of fruit, usually soft-

skinned tropical varieties, such as sasthmandra, corybellum, banana, opaldew, and kungfruit. Except for those planets where smaetal swarms have established themselves within the local ecology, they are most often encountered in starship holds or starport storage areas, where shipments of fruit from infested worlds have ripened and released their unsuspected riders. Fortunately, such encounters are rare. Stern quarantine laws exist against fruit from worlds known to harbour this pest; shipments are carefully inspected and stiff penalties laid upon smugglers. A brisk illegal business continues on several planets where opaldew and aureorb have been outlawed.

Attacks by a smaetal swarm cause 2D damage per round against every Traveller within the same area as the swarm. They can be avoided by jumping into water or running through fire or thick smoke. Torches confuse them. Though they will still attack a Traveller carrying a torch or burning brand, they will inflict only 1D damage per round. Each turn, the Traveller may make a DEX check to see if the torch breaks up the swarm long enough for them to escape.

Smaets can pursue a human as fast as they can run, and for as long. Travellers partially protected by armour will suffer only 1D damage each round. Travellers in sealed suits will be completely immune to smaetal attacks and take no damage. Note, however, that Travellers have been known to suffer accidents due to vision impairment when a swarm attacked, due to their faceplate being covered by the creatures. In addition, if any opening or hole exists in the armour, the swarm will eventually find it, and the protection provided becomes partial rather than full.

Weapons such as lasers or slug throwers are useless against smaetal swarms, because of their numbers. Unfortunately, those weapons best able to disperse a swarm (grenades, wide beam plasma guns, flamethrowers and the like) are inappropriate for use within the confines of a starship hold or starship terminal. Vacuum, jets of water, or blasts from CO_2 fire extinguishers have been known to control them in close quarters. The eggs have thus far proven immune to all common ovicidal techniques, including fumigation and irradiation.

As smaetal swarms have spread from world to world, genetic drift has created wildly divergent species. Common variations include increased size of the swarming members (wingspans of up to 8 cm have been seen on Tahauri), and poisonous or hyperallergenic stings (on Drenghai, Moloaku, and others). Extreme caution must be exercised whenever swarming smaets are encountered.

SPRINGER

(Arachnofefis var.)

Springers (also called cave spiders, spider-cats and shrew-spiders) are eight-limbed quasi-mammalian carnivores. Their origin world is not known, but they are found throughout the coreward regions of the Imperium. Although spread widely by the mysterious Ancients, the range of the springer was increased considerably by the colonists of the First Imperium, as a means of biological pest control. Massing between 250 and 500 grams, springers average 15 centimetres in length.

For reasons not completely understood, springers evolved from a four-limbed form. Each limb evolved into two, the upper portion shortening almost into non-existence. Silk is excreted by glands in the upper chest area, which is hairless to prevent tangling. Two modified 'thumbs' are used to draw silk from the glands and manipulate a web. The silk produced is adhesive only when excreted, drying rapidly to a thick rope. Webs woven of it are coarse networks which signal the presence and location of prey. The powerful hind legs are adapted to leaping and the remaining limbs are used for clinging to prey while venom (from two glands in the mouth) is injected into the prey.

Springers are hermaphroditic. Young are born live at any season, in litters of 3-5. Since most of their 'milk' glands have evolved into silk-producing glands, the springers supplement their youngs' diet with regurgitated, partially digested food.

Springers normally inhabit caves, dense forests and rock crevices, but can often be found inhabiting piles of rubble and deserted buildings. Springers are not normally dangerous to humans, but the bite can be painful, and their venom can cause death due to allergic reaction in some individuals

NAME	Springer
HITS	2
SPEED	3 m
SKILLS	Athletics (dexterity) 3, Melee 0, Recon 1, Stealth 2, Survival
ATTACKS	Bite (1)
TRAITS	Poison (Easy, D3, 1D minutes), Small (-4)
BEHAVIOUR	Carnivore, Trapper

KIAN
(Pseudostrophio gigas)

Kians are herbivore grazers of large size, originally known from Prilissa in the Trin's Veil subsector of the Marches. Due to their hardy nature, they were exported to a number of worlds as beasts of burden, and are a common sight in the coreward reaches, both in the wild and captivity. They are plains dwellers, travelling in herds of 10-60 individuals, feeding upon grasses, leaves, or similar plant matter.

Externally, the kian is a large bipedal creature with a long neck, short tail, and no other limbs (the remains of an atrophied pair of fore-limbs can be found in some sub-species). Kians are thickly furred, their coats showing distinctive colour patterns of brown, gold, lemon-yellow, and black. A kian's legs are powerfully muscled for fast movement over long distances. The sturdiness of their overall frame has made them a frequent choice for use as mounts and pack animals on the planets where they are found. Kian's hearing and eyesight are extremely good, reflecting their predator-laden environment of origin.

Internally, the kian is unremarkable. It has a closed circulatory system and an overall high metabolism which requires that it be fed 30-50 kilograms of vegetable matter daily. The kian digestive system consists of two stomachs, which allow the animal to break down the toughest plant matter into digestible form. The kian has a thick layer of fat which insulates in cooler climates and provides a degree of protection from the venomous bites or stings of small animals. The skeleton is strong and heavy, and is structurally not unlike that of the moa and other prehistoric terrestrial flightless birds of Terra.

When attacked or frightened, kians will usually flee, but if cornered are capable of delivering deadly kicks with either of their hooved feet. The large claws projecting from the backs of the feet are only present in the male, and seem to be used solely for ritual combat between males prior to mating.

Kians can carry up to 250 kilograms comfortably, and will refuse to move if overloaded. Kians cannot tolerate thin atmospheres, and require a special filter/muzzle (Cr60) for tainted atmospheres.

NAME	Kian
HITS	30
SPEED	9 m
SKILLS	Athletics (endurance) 1, Recon 1
ATTACKS	Kick (1D)
TRAITS	Heightened Senses, Large (+1)
BEHAVIOUR	Herbivore, Grazer

HOPLITE

(Marmotophagus var.)

The hoplite is a large, heavily armoured creature found on many worlds throughout the territory once ruled by the Vilani empire. The world of origin of these beasts is not known with certainty, since early Vilani colonisations and subsequent settlement efforts have resulted in hundreds of worlds with mixed biochemistries. Because of the carapace and its horns, the hoplite is believed to have originated on a world with many large predators, and this and other factors have limited the number of possible worlds to less than a dozen, mostly in the Vland sector.

Adult hoplites weigh about 1,600 kg, and are usually around 2.5 metres long and one metre at a shoulder. They are bilaterally symmetrical, homeothermic hexapods, with a closed circulatory system incorporating a three-chambered heart.

The most notable feature is the thick, articulated carapace (with many projecting horns) covering the dorsal surface of the animal's body.

Hoplites are solitary animals, usually feeding on small, burrowing animals. They locate the burrows by smell, and probe within them using an extensible, tough proboscis. When the prey is located, the proboscis grabs it, extracts it from the burrow, and conveys it to the mouth, located on the underside of the head. When not in use, the proboscis is pulled back under the head, forming a j-shaped structure.

Paired structures on either side of the proboscis are extremely sensitive feelers used by the hoplite to detect the vibrations of an approaching predator or the faint sounds made by a burrowing animal. The forward facing horns are sometimes used to enlarge a burrow to make the insertion of the proboscis and extraction of prey easier.

When attacked, the hoplite will attempt to run but, if cornered, will turn on its attacker, and begin to gyrate its body, slashing with its horns. It takes a tough, determined predator to bring down an adult hoplite.

NAME	Hoplite
HITS	50
SPEED	5 m
SKILLS	Athletics (strength) 1, Recon 0, Survival 2
ATTACKS	Horns (3D)
TRAITS	Armour (+7), Large (+1)
BEHAVIOUR	Carnivore, Hunter

IVORY GAZELLE

(Rasura weberii, R. kudebeckii, et al)

The ivory gazelle has an unknown planet of origin. Adult gazelles weigh between 60 and 80 kilograms, depending upon exact subspecies. Aside from their leg arrangement, they are externally very similar to many Terran ungulates, which has led some authorities to speculate that they might be the result of genetic tinkering from basic Terran stock. Certain details of their internal arrangements, however, casts doubt upon this theory, as they resemble no known Terran form.

The skeleton is made of a white substance similar to ivory in appearance and consistency, which (in both sexes) protrudes from the skin of the skull to form paired horns. There are three pairs of legs, attached to a dorsally located spinal column. Respiratory and circulatory systems follow Terran norms.

The chief departure from Terran characteristics is in the digestive system. Although possessing many of the characteristics of mammals, the ivory gazelle has a digestive system with many features of that of birds. The mouth has no teeth, but has two pairs of opposed shear-like structures (one on each side of the mouth) and a long, prehensile tongue. The grasses and soft shrubs upon which the ivory gazelle feeds are cropped off and swallowed whole, as with Terran ruminants, but instead of being regurgitated and chewed at a later time, the food is passed through a series of gizzards, where it is ground up by stones swallowed for the purpose.

Ivory gazelles congregate in herds of seven or more individuals, including one top male-female pair, (usually the parents of the rest of the adult members of the herd) and several family groups of 2-5 individuals each. When threatened, ivory gazelles either flee or, when cornered, form a circle, young inside, and fight to the death.

There are two sexes, male and female, which mate for a season or more, and raise 1-3 young per year. The young are born early in the year and are capable of standing within a few minutes, running at full speed in an hour or two.

Ivory gazelles are often hunted extensively, and their meat is a major source of protein and fat. The hides provide fur which is spun and woven into cloth, while the hides are tanned and converted to leather. The 'ivory' of the bones is prized over all other parts of the animal. It is light, strong, and can be readily carved to many shapes.

They are usually found in upland valleys, where there is sufficient vegetation to support them, and rough ground to provide cover from predators. The six limbs give an advantage on rough slopes as they are able to use four legs for footing, and two for defence.

Ivory gazelles are usually a dark grey colour on the back and sides, fading to a lighter shade on the underside.

NAME	Ivory Gazelle
HITS	14
SPEED	8 m
SKILLS	Athletics (dexterity) 1, Recon 1, Survival 1
ATTACKS	Horns (1D)
TRAITS	-
BEHAVIOUR	Herbivore, Grazer

GARHAWK

(Stellafalconformis ululatis)

Also known as the skyhuntress, or kahkahyeek from its hunting call, the garhawk has become popular in some circles of Imperial nobility for hunting. Properly trained garhawks, with their keen eyesight and superb hunting instincts, can spot and kill prey over remarkably long distances.

Garhawks are large (over 1 metre wingspan) flying carnivores, originally from Nagaschk, a planet to spinward of the Imperial core. Natives of the world, a TL3 race, delighted in hunting; their use of garhawks in sport sparked interest among human visitors. Once the trick of raising and training these vicious aveforms was mastered, a small but lucrative trade in garhawks gradually opened, introducing them through much of the Imperium, the Solomani Sphere, and even within the Zhodani Consulate. Humans, at least those enjoying the hunt, have found the sport of hunting with garhawks a fascinating renaissance of falconry and hawking.

The stellafalconformes are prime examples of convergent evolution. Externally, they are quite similar to the exoaccipitiformes of Kalga, the falconiformes of Terra, and countless other aveform families throughout Charted Space, where natural selection has acted to mould highly efficient flying hunters. Garhawks are not true birds; they bear live young in nest litters of two or three. The young are fed meat in the nest by the two parents for three months. After their first flight, the young will remain in the nest for 6-9 months. Garhawks form mate-pairs which last for life; they are often sold in pairs, for this increases the lifespan (and the value) of the animal, but they rarely breed in captivity, and those that do are inferior hunters. The average lifespan is ten years, although one specimen lived for nineteen years after it was taken.

Garhawks should always be approached cautiously. Sudden noises or movements, unfamiliar voices or odours, brightly coloured or shiny objects or articles of clothing have been known to provoke sudden and unrelenting attacks. Trained garhawks are used to hunt a wide variety of small animals, usually not exceeding half the garhawk's weight. However, they have been known to ferociously attack creatures far larger than themselves in defence of their young, or on command from an experienced handler.

It is not a sport for the poor (which also explains its popularity in certain circles). Garhawks are expensive to buy – a trained one demands a price of close to Cr5000 – and expensive to maintain. A full-grown garhawk, weighing as much as 6 kilograms, needs 500 grams of fresh meat per day. Temperamental creatures, a garhawk can be particularly vicious when not

NAME	Garhawk
HITS	5
SPEED	9 m
SKILLS	Athletics (dexterity) 1, Melee 0, Recon 3, Stealth 1
ATTACKS	Bite (3D)
TRAITS	Flyer (slow), Heightened Senses, Small (-1)
BEHAVIOUR	Carnivore, Pouncer

properly fed and cared for. Other expenses include heavy gloves, pads, and training paraphernalia for the handler, hoods and collars for the garhawk. A full-time handler is required to feed and care for the creatures, and to constantly sharpen their training. Garhawk falconry remains a sport of the very rich.

Travellers may encounter garhawks in a variety of circumstances. For example, a wealthy patron or enemy may keep them for sport; one encounter might find a nobleman unleashing his garhawk against unwanted intruders to his estate.

Skyhuntresses are occasionally found aboard ships as cargo, especially if the destination is a world where hunting is popular, or where there are many landed estates. Travellers owning a starship may be hired to deliver a mated-pair of garhawks to a noble... and woe betide them if the feeding instructions for their charges are not carried out precisely.

Garhawks inhabit such remote and hard-to-get-to places that they are rarely encountered by Travellers in the wild. If a party is actively searching for garhawks, make a Formidable (14+) Recon check for each week spent searching the proper locations (generally high, not readily accessible mountaintops, cliff faces, and so on) for them to successfully locate a nest.

Training a garhawk requires much time, patience, and blood. One raised in captivity usually lacks the spirit of its wild cousins, so a garhawk must be captured while still flightless in the nest in order for optimum training. Those captured too soon will not survive, and those captured too late will be too hard to control (although even the best trained of garhawks are difficult to control completely). Training takes D3+5 months, with a training session every day. On each encounter, an Average (8+) Animals (training) check is required to avoid attack. At the end of the training period, a Difficult (10+) Animals (training) check is required for the garhawk to be trained and 'domesticated'.

LSP MODULAR CUTTER

The now-familiar modular cutter has its origins in the Third Frontier War (979-986). It was not the first modular vessel and is by no means the only one, but for most Travellers it is the archetypical craft that leaps to mind when detachable modules are mentioned.

During the course of the Third Frontier War, Imperial armed forces generated requirements for several vessels that would fulfil a variety of logistics and specialist roles. Various bids were put forward, but the winner was a design from Ling-Standard Products that could fulfil all the intended roles by swapping out an internal component. The LSP Modular Cutter was not ready for service during the Third Frontier War, but large numbers were deployed in the Solomani Rim War (990-1002) where it proved highly useful. This vessel and its derivatives have since become so common that the term 'cutter' is often taken to specifically refer to a 50-ton small craft.

Overall, the modular cutter with a module in place is a 50-ton streamlined craft with the overall hull form of a cylinder and rounded nose. The cutter itself is a 20-ton vessel consisting of an engineering section aft and control area forward, joined by a dorsal rail. The 30-ton detachable module fits between these sections. Some variants of the modular cutter concept clip the module to the dorsal rail. This has the disadvantage of rendering the parent craft unstreamlined when the module is detached, so most modern cutters use an enclosed module bay accessed by clamshell doors. Side-opening doors are popular in some areas, but a 'gull-wing' configuration with the doors hinged along the dorsal rail is considered to give the greatest structural integrity and makes picking up a module from the ground a simple matter of landing atop it.

Modules on an open rail-type cutter must be fully enclosed to provide life support. On the 'door cutter' design, modules may have their own bulkheads or not, depending on their intended role. In both cases the module can be supplied with power and water by way of the dorsal rail, though it may have its own self-contained life support system.

The cutter is capable of 4g acceleration with a module aboard, which is more than enough for most applications, though its very basic sensor fit is a limitation in some circumstances. Military cutters often operate under the control of a command vessel or parent ship, typically with fighter escort, and are tied into the detection and tracking net of the force as a whole. Private operators do not have this luxury and may choose to upgrade the sensor package unless the craft is engaged in safe, routine work.

Without the module in place the cutter is capable of greater than 4g acceleration but this is inadvisable as the module provides much of the vessel's structural integrity; without it, distortion of the spine can occur. This renders the cutter unusable for module operations and difficult to control. In extreme cases, a cutter might break its own back simply by accelerating.

The cost for a new cutter from LSP or one of the licensed builders is MCr10.287 without a module aboard, but surplus vessels are often available at prices as low as MCr2.5. Unlicensed versions are also produced, some of which are better and some far worse than LSP standard. Price does not always dictate quality in this case.

Most civilian cutters use one of three standard modules, often with local modifications. Note that these modules have revised costs and construction from those detailed on page 103 of *High Guard*.

OPEN MODULE

An 'open' module is not open to vacuum, but is instead open in the sense of being customisable. It consists of 30 tons of open space, with tie-downs for cargo and little else. Open modules are used for cargo haulage or converted into part-passenger/part-freight craft with the addition of a fresher and a few seats.

Open Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Cargo		30	-
		Total	1.8

**Open space
for cargo haulage**
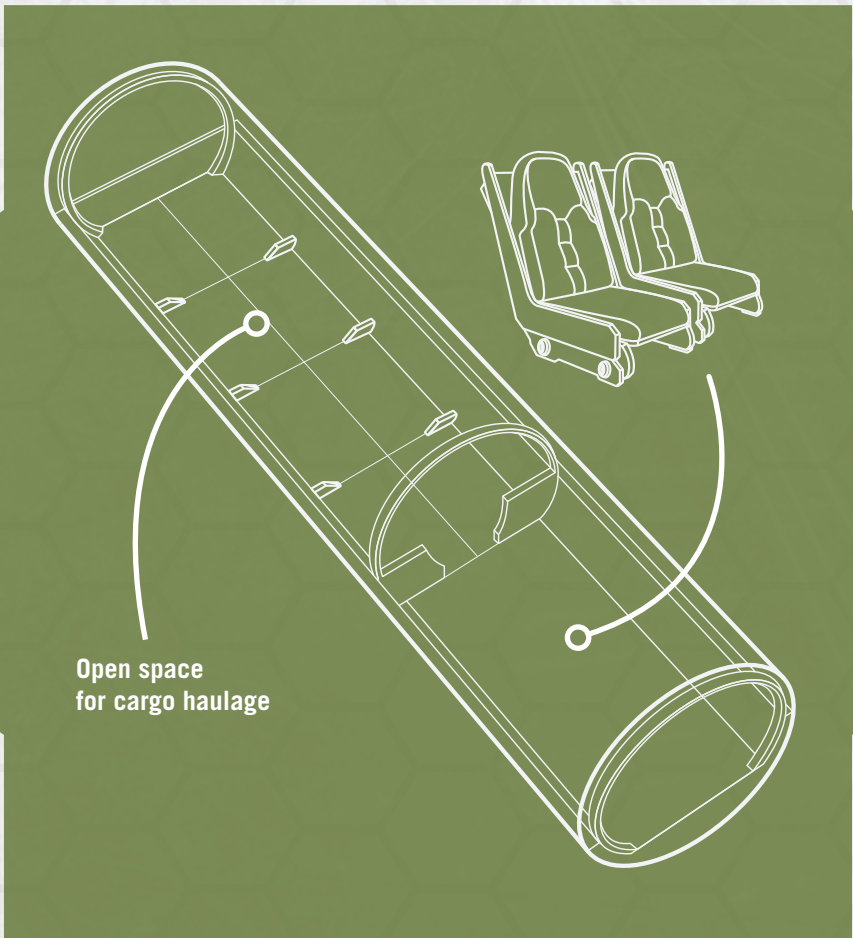
FUEL MODULE

A fuel module is dedicated to fuel tanks, supported by a fuel processor. The standard cutter is a streamlined design with fuel scoops built in, enabling it to skim fuel and refine it in transit back to the parent vessel or installation. Fuel cutters are carried aboard many long-range vessels, enabling them to use an unstreamlined configuration and still refuel without visiting a starport.

Fuel Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Fuel Tanks		29	-
Systems	Fuel Processor (20 tons/day)	1	0.05
Cargo		0	-
		Total	1.85

Fuel connection cables

Fuel
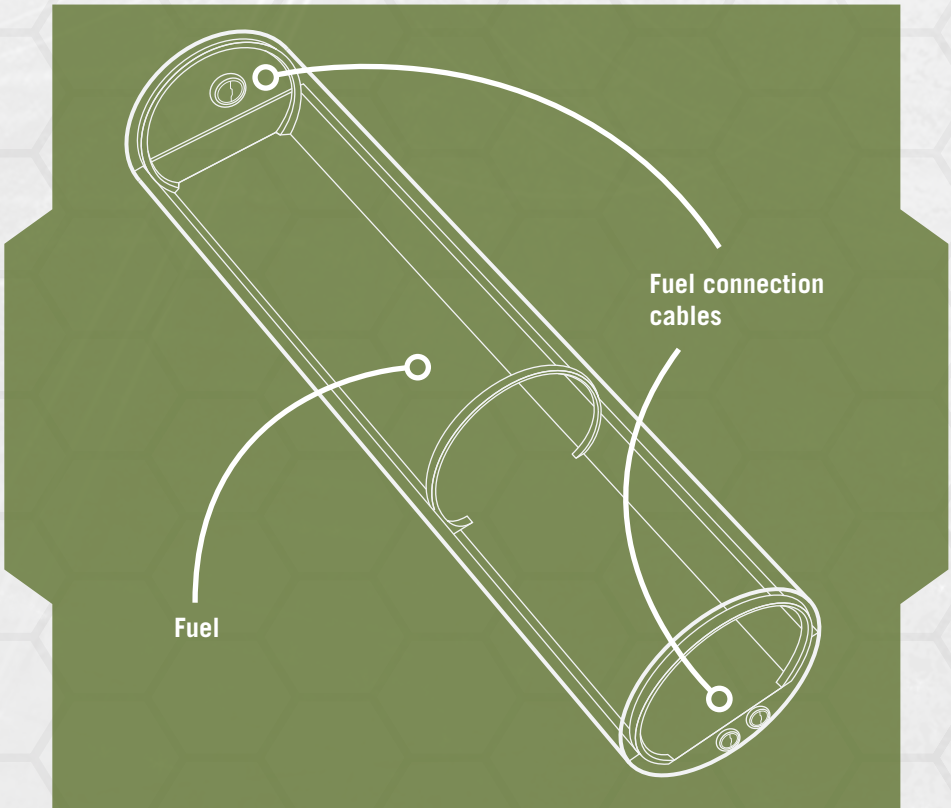
ATV MODULE

The so-called ATV module is more correctly named a 'vehicular interface transport' module, but it is normally associated with ATVs carried by exploration ships. The standard module has space for up to 12 tons of vehicles, and can easily accommodate a standard ATV or multiple smaller vehicles. Vehicles are secured in a configurable cradle which can accommodate most standard designs.

The remainder of the module's space is normally used for mission-related spares, stores and supplies. A set of collapsible lockers and containers is provided for this purpose. If additional vehicle or working space is desired, each ton of stowage can be collapsed into a tenth of its size, or be completely removed and left behind.

ATV Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Systems	Vehicle Cradle	12	0.12
Collapsible Stowage		18	0.18
		Total	2.1

Stores and supplies

ATV
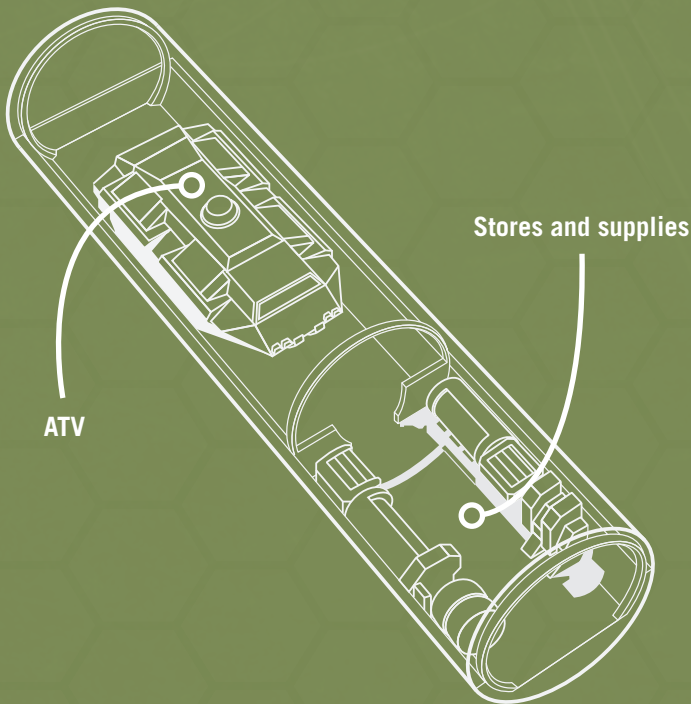
STARPORT SHUTTLE MODULE

The shuttle module is a standard design used by many starports, providing surface-to-orbit transportation for two dozen passengers and a small amount of cargo. The cabin space, in theory, allows a steward to operate the vessel's tiny galley and passengers to visit the equally cramped fresher, though in many cases a couple of extra seats are packed in or the space is converted to cargo capacity.

Shuttle Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Systems	Cabin Space x 8	12	0.6
Acceleration Seats	24	12	0.72
Cargo		6	-
		Total	3.12

Cargo

Ammenities
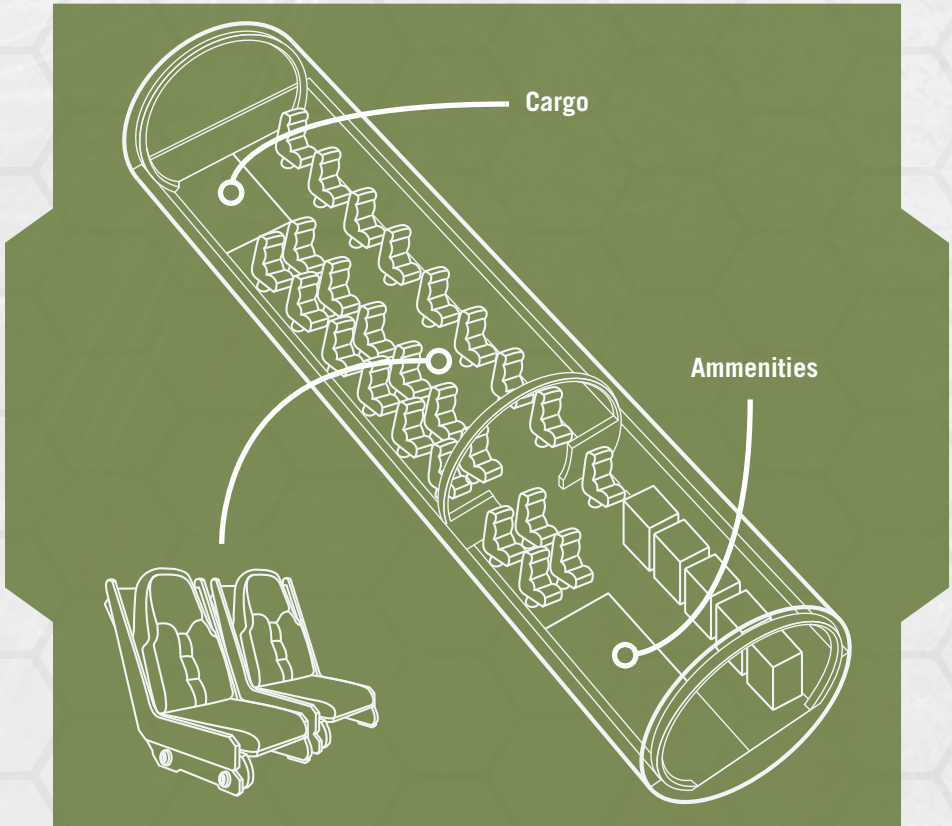
FIELD WORKSHOP MODULE

A field workshop module can be used to support vehicles or other equipment in any application from prospecting to mercenary work. It is configured to allow vehicles to drive in and out, and the work cradle can also be used to secure a vehicle for transportation. However, the workshop module is not just a dedicated vehicular repair facility – it can carry out this work in addition to a range of other tasks.

Field Workshop Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Systems	Vehicle Cradle	12	0.12
	Workshops x3	18	2.7
		Total	4.62

Cradle

Workshops
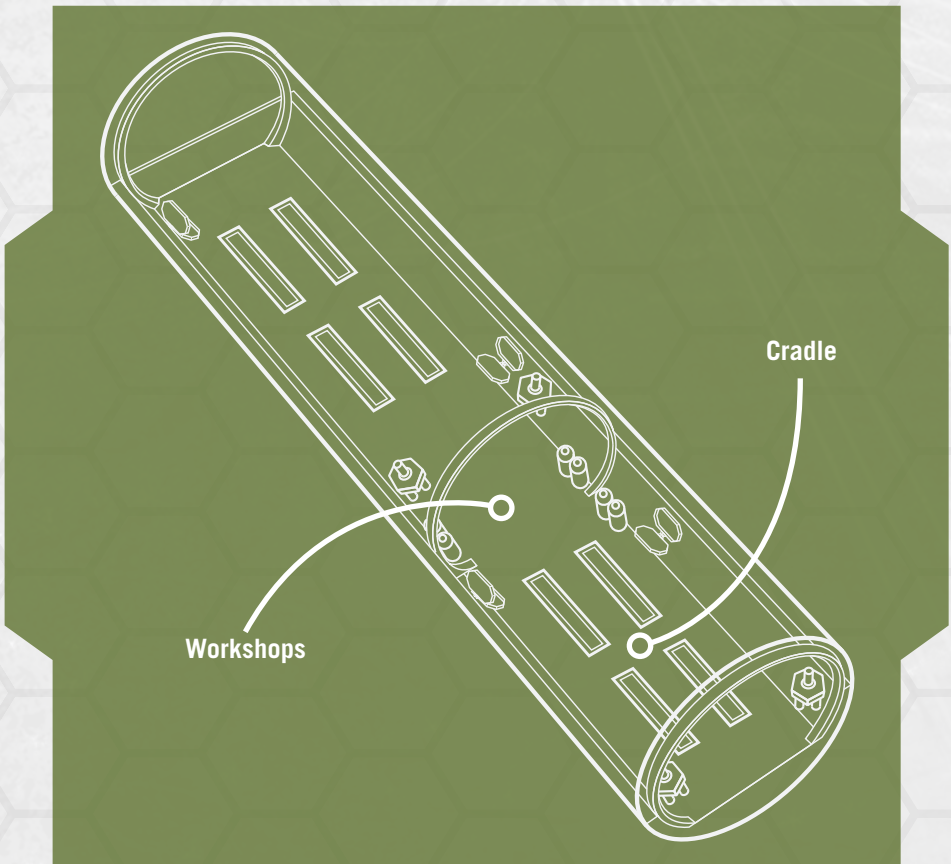
ASSAULT BOAT

The assault boat module was one of the first to be created, but is normally used only by military and mercenary operators. It is capable of carrying up to 32 infantry personnel with bulky equipment such as vacc suits and combat armour, and deploying them rapidly through a set of hatches in the floor and sides of the module.

Assault Boat Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Systems	Cabin Space	6	0.3
	Armoury	6	1.5
Acceleration Seats	32	16	0.96
Cargo		2	-
		Total	4.56

Hatch
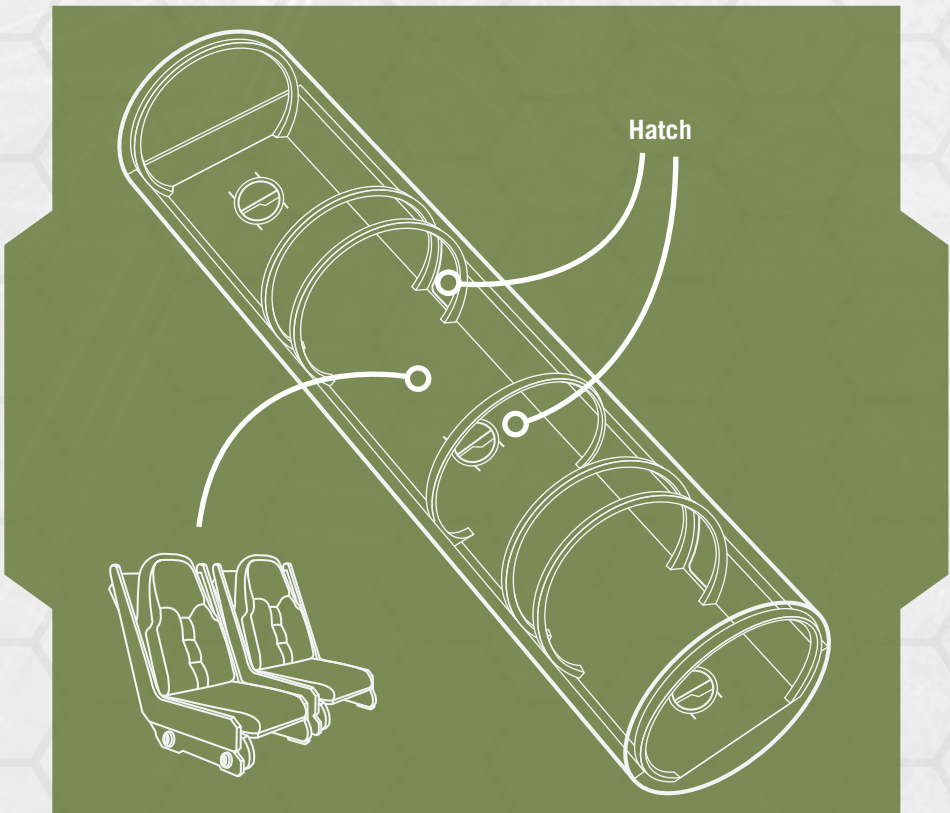
MINING MODULE

The mining module is designed to convert a standard cutter into a prospecting craft with mining capability. It has very little cargo capacity, and is generally used to locate and process ore samples, with transportation carried out by another craft.

Mining Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Sensors	Mineral Detection Suite	-	5
Systems	Probe Drones (20)	4	2
	Mining Drones (10)	20	2
	Laboratory	4	1
Cargo		2	-
		Total	11.8

Mining drones

Lab

Probe drones
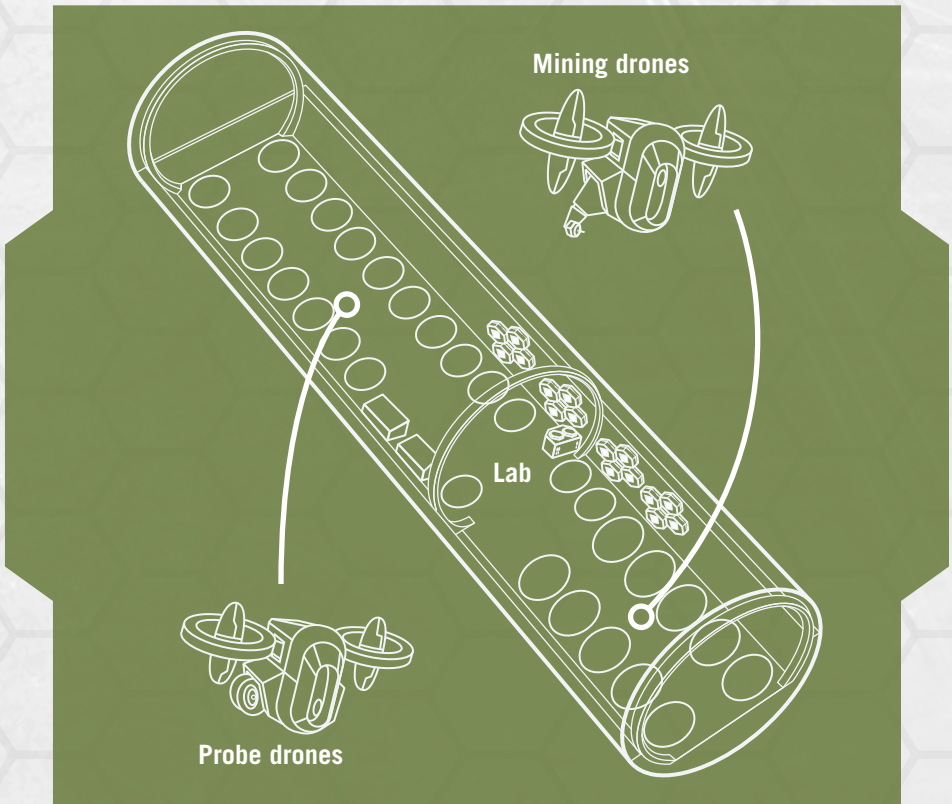
SHELTER MODULE

The shelter module is designed to be deposited on the surface of an otherwise inhospitable moon, asteroid or planet. It provides (cramped) accommodation for up to eight personnel for an extended period. Indeed, if water or ice is available for fuel, the shelter module has an endurance limited only by food supplies and how long the crew can stand being cooped up together. Its functions are controlled from a tiny workstation which is always referred to as 'the bridge' despite being nothing more than a seat with a console on a moveable arm.

Shelter Module

TL12		TONS	COST (MCR)
Hull	30 tons, Streamlined	-	1.8
Power Plant	Fusion (TL12), Power 15	1	1
Fuel Tanks	4 weeks of operation	1	-
Systems	Airlock	2	0.2
	Sensor Station	1	0.5
Staterooms	Standard x 4	16	2
Common Area		6	0.6
Cargo		3	-
	Total		6.1

Cargo

Stateroom

Airlock

The bridge
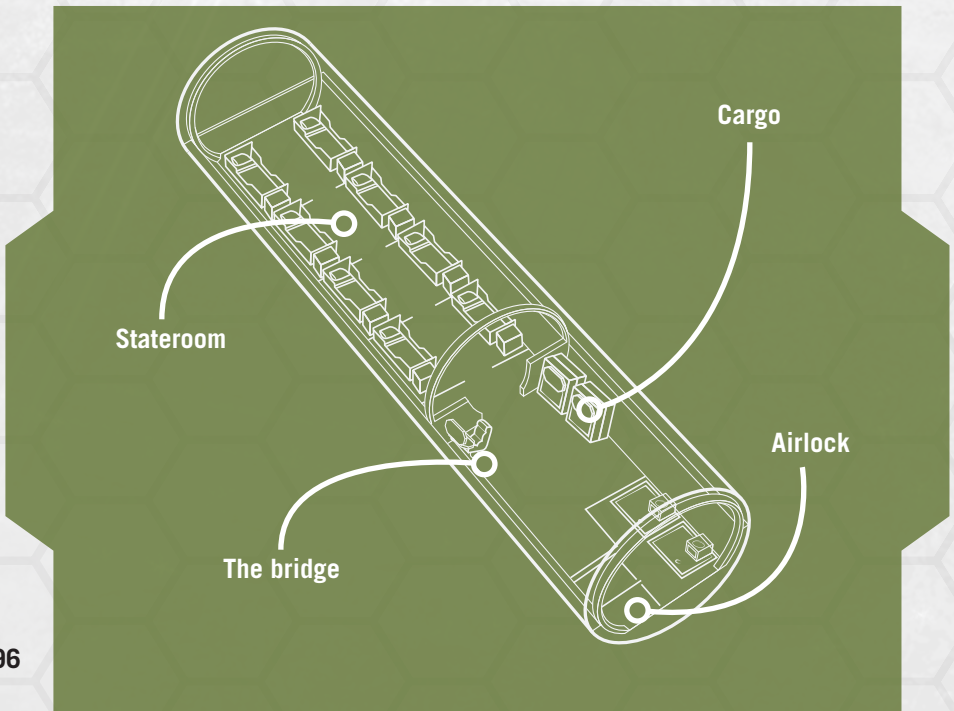
TRAVELLING

JUMP POINT TO PORT

The majority of starships spend their time plying from one starport to another in a different system. This involves an endless cycle of hauling to the jump point, a week in jumpspace, and a short transit to the destination. Passengers aboard such a vessel may perceive no difference during these three phases; they board the ship, amuse themselves until time to disembark, and pay little attention to what is going on outside. The ship's crew, on the other hand, may have a very different perspective of time spent travelling to and from the jump point.

Orbital space around a world with a Class A or B starport tends to be busy and subject to a strict set of traffic control guidelines. Often a busy port will post guidelines at neighbouring starports, indicating favoured emergence points for ships from that system. If pre-prepared jump solutions are available, these use standard emergence zones. A policy of giving priority to vessels emerging from jump at these points encourages traffic to behave in a manner that is easier for the starport authority to manage.

Traffic much beyond the 100-diameter jump limit tends to be sparse unless there is another important world or major installation in the system. In-system traffic often makes sublight transits or jumps between distant outposts or industrial facilities, and may not even be noticed by the average vessel using the main starport. In any case the crews of these vessels are usually too busy making sure they comply with instructions and avoiding the occasional erratic manoeuvre by other vessels.

Some crews insist on hot-dogging through traffic, making course corrections on the fly and trusting to their epic piloting skills. They may be able to boast they have never had a collision, but that does not mean they never caused one. Most port authorities frown on reckless flying, imposing escalating fines or bouncing the vessel to the bottom of the docking priority list until they settle down and make a cautious approach like everyone else.

VOLUME OF PORT TRAFFIC

The number of ships using the mainworld's port at any given time is largely determined by the population and importance of the mainworld. The following system is used to determine the number of vessels in the region of the port, including ships landed at the highport and downport, vessels in transit in and out to the jump point, and those headed to or from other destinations in the system close enough to the mainworld to be significant.

Note that this system does not indicate small craft serving the port itself or military and defensive vessels. It is an indication of the level of civilian traffic around the port, which in the case of an important high population world tends to be quite a lot.

The number of vessels in the region of the port is determined by the system's Shipping Activity Indicator (SAI) which is based on the Population score of system and starport type.

SAI is determined by rolling a number of dice equal to the Population, with the following modifiers for the world's political and economic significance:

- If the world is of little importance and difficult to get to (for example, a mid-tech world well off the main trade lanes) reduce dice by -3 to a minimum of 1D.
- If the world is of little importance or difficult to get to (for example, a productive world well off the main trade lanes), reduce dice by -1 to a minimum of 1D.
- If the world is economically important (usually this means it has an Industrial trade code, or it might be a major trade nexus), add +2 dice.
- If the world is politically important (such as a subsector capital) add +2 dice.
- If the world is of great political importance (such as a sector capital), add +4 dice.

Particularly significant worlds might increase the number of dice even further. The capital of a major state such as the Third Imperium will have huge numbers of ships around its ports unless there are restrictions or special permits required to visit.

The quality of the starport further modifies the SAI.

Class A: Multiply SAI by x3
Class B: Multiply SAI by x2
Class C: SAI is as normal
Class D: Reduce SAI by -2 dice to a minimum of 1D and roll 1D-1 instead of 1D
Class E: Reduce SAI by -4 dice to a minimum of 1D and roll 1D-2 instead of 1D

Results of less than zero indicate the port is empty.

So, a Population 8 Industrial world (adding +2 dice) with a Class A starport will roll 10D to determine SAI and multiply this by 3, for a possible range of values 30-180, averaging around 105. Meanwhile, a Population 6 backwater world (reducing SAI by -2 dice) with a Class D port will roll 2D-2 for a possible range of 0-8 ships, averaging around 3.

Type of Traffic

The SAI gives the raw number of starships in an around a port, which may be all the referee needs. If additional detail is desirable, the nature of traffic can be determined.

Ships are defined by five general classes, based on their tonnage.

Bulk: Bulk commercial vessels begin at 50,000 tons displacement and have no upper size limit.
Large: Large commercial vessels are in the 10,000-49,999 tons displacement range.
Medium: Medium commercial vessels are in the 5,000-9,999 tons displacement range.
Small: Small commercial vessels range from 1,000-4,999 tons displacement.
Minor: Minor traffic falls in the sub-1,000 tons displacement range.

The proportion of vessels within a system falling into a given tonnage class is dependent upon starport type – large freighters do not call at Class E starports! If a breakdown is desired, use the Ship Size table.

Ship Size

Port Class	Bulk	Large	Medium	Small	Minor
A	5%	10%	20%	30%	All other vessels (35%)
B	0%	5%	10%	20%	All other vessels (65%)
C	0%	0%	5%	10%	All other vessels (85%)
D	0%	0%	5%	10%	All other vessels (85%)
E	0%	0%	0%	5%	All other vessels (95%)

These percentages represent a proportion of the SAI that falls into a given tonnage class and should be used as a guideline by the referee rather than representing an exact figure. A Class C port at a Population 6 world might have 6-36 ships in port at any given time. Using these guidelines it is likely that there will be 0-1 Medium ships (quite likely none) in or around the port, and around 0-3 small commercial vessels. All other vessels will be in the sub-1,000-ton displacement class.

This is only a guideline of course. Larger vessels may use minor ports from time to time. The arrival of a superfreighter at a backwater port will cause quite a stir, not least due to the difficulty of accommodating its needs.

Time in Port

To determine how long any particular ship will remain in the docking/landing bay, roll 1D-1 for the number of days before departure. A result of zero indicates the ship is due to depart today. If a 6 is rolled, roll

2D+6 instead. There will usually be a reason why a vessel spends so long in port; perhaps there are crewing difficulties or the ship is undergoing maintenance.

TRAFFIC CONTROL ISSUES

Orbital traffic control is a complex business. Even with automated assistance, keeping large numbers of vessels moving in and out of the starport in an orderly fashion is a challenge. A delicate balance must be struck between optimising turnaround times for economic reasons and keeping ships safe from collision. Priority is given to larger ships for both of these reasons – large vessels require more time to answer the helm than little free traders, and bring in a lot more money. Thus traffic control patterns are usually built around getting the largest vessels into a docking bay efficiently and safely. A smaller ship can be sent around another orbit or two, or placed on a complex approach requiring multiple course changes. This frustrates many small-ship skippers, but it is the way of things.

Priority for approach and docking clearance follows a hierarchy based on ship size, affiliation and compliance with standard protocols. Some organisations such as shipping lines, or well-connected individuals, can jump the queue, and diplomatic vessels almost always do. A small starship may have to wait hours – perhaps even days in some cases – to be given docking clearance.

To determine the delay in being granted clearance, roll 2D with the following modifiers.

Minor vessel:	-4
Small Vessel:	+0
Medium Vessel:	+2
Large Vessel:	+4
Bulk Vessel:	+6
'Respectable' vessel (for example, one operated by a formally recognised shipping line):	+3
Official vessel (for example, a courier operated by a friendly port's authority):	+6
Diplomatic or well-connected vessel (for example, a private yacht owned by a friend of the subsector duke):	+5
Important diplomatic vessel (for example, the sector duke's own yacht)	+10

If the Travellers want to bargain or persuade the port authority of their importance, they may make an Average (8+) Advocate, Diplomat or

Persuade check and apply twice the Effect to the final outcome. They may end up being bumped back in the queue if they fail the check.

The outcome of this check is known as the ship's Docking Priority, or DP. DP is deducted from 20 to give the number of Increments the ship has to wait. The length of an Increment depends on the port type – small ports with little traffic often grant immediate clearance as there is nothing in the way; larger ports with complex traffic patterns may have a bay available but be unable to thread the ship through holding patterns for a while.

If DP is zero (or less), immediate approach clearance is granted. If, not, the ship has to wait a number of time increments depending upon the class of port.

Increments

Port Class	Increment
A	2Dx5 minutes
B	2Dx3 minutes
C	4D minutes
D	2D minutes
E	1D minutes

For example, a bulk freighter belonging to a large shipping line arrives at a Class A starport. Its DP is determined by rolling 2D (getting a result of 4 in this case), adding +6 as a bulk freighter and an additional +3 for being part of a recognised shipping line. The final result is 13, which is deducted from 20 to give 7 Increments. The referee determines the day's Increment on 2Dx5, getting a result of 25 minutes. The bulk freighter has to wait in a holding pattern for (25 x 7) 175 minutes – nearly three hours – before being given clearance to approach.

Meanwhile, the subsector duke's cousin arrives in his 800-ton yacht. This is a minor vessel (-4 on the roll) but the owner is well-connected for a +5 modifier. Some haughty words to traffic control result in an Effect of +2 on the owner's Diplomat check, giving a further +4. The duke's cousin rolls an 11 with a net modifier of +5, for a DP of 16. Deducted from 20 this gives four increments of 25 minutes, so the yacht is headed in after a delay of 100 minutes, well before the bulk freighter whose captain has a few things to say about wealth and privilege.

Once clearance is given, ships are expected to proceed in to dock in an orderly and safe manner. Pilots have a small amount of leeway to make their own judgements, but traffic control does not like those who cut corners or get too close to other ships. A crew that wants to hot-dog rather than plod patiently risks being bounced to the back of the priority queue.

To avoid this, the crew of the incoming ship must make a Routine (6+) Advocate, Diplomat or Persuade check. The Effect of this check is added to the pilot's skill level. If the total equals or exceeds the world's Law Level, there is no penalty. If it is lower, the ship is refused approach clearance. Its slot will be bounced back a number of Increments equal to the Effect the check was failed by. Essentially this means that a ship that threads effortlessly through the traffic with no hint that anything could go wrong, coupled with words on the radio that sound professional or suggest the port authority would be well advised to accept the situation, will be able to dash in and dock quickly. One that lurches about all over the place and scares other port users will be sent around to try again or outright refused permission to dock.

Finally, the vessel will be able to enter port and dock. To passengers in their cabins, it may seem as if nothing has happened but for the crew the transit from jump point to port may have been the toughest part of the journey – especially if some bunch of yahoos in a free trader thought they knew better than the port's traffic controllers. People like that should not be allowed on the spacelanes…

WAR IN THE FOURTH DIMENSION

The availability of air power adds a third dimension to the battlefield, and the use of the electromagnetic spectrum expands it into a four-dimensional battlespace. The electromagnetic spectrum is routinely neglected by militias and insurgents, but a properly equipped military force is capable of making war in this 'fourth dimension'.

The term 'radiation' is often associated with dangerous nuclear radiation, but electromagnetic radiation can be anything from radio or radar signals through thermal emissions to the electromagnetic fields around equipment and wiring. Detecting and analysing these signals is a critical part of advanced warfare. Whilst large-scale electronic and cyber warfare requires bulky equipment and absorbs significant resources there is much that a small unit can do to gain an advantage over its opponents.

A variety of low-cost electronic equipment is available on the mercenary and security market, which can make all the difference when taking on a much larger lower-tech force.

COMMUNICATIONS

There is an old adage that 'warriors buy better guns; soldiers upgrade their comms'. Whilst not 100% accurate, good communications can be a massive force-multiplier and the ability to interfere with enemy communications can dislocate their plans and cripple their operations.

At a mid-tech level most communication is by voice transmission. Scramblers and channel-hopping radios give a reasonable degree of security against interception by similar equipment, but are no match for more advanced communications-intelligence equipment.

At higher tech levels, warfare can become more 'network-centric', with information shared between all units in the same network, including direct camera feeds and sensor data from many platforms. Indeed, there is so much data on offer that even with automated assistance a soldier runs the risk of being saturated and unable to process what is useful.

To remedy this problem, most battlefield information network systems have a tiering feature which is set by the electronics experts at headquarters. Command units, which usually contain communications-warfare experts, receive all information from all platforms but only pass on what the system deems relevant to lower-tier units. This function

can be overridden by a headquarters unit, feeding additional data to a force that needs it. More basic squad-level information networking kits are also available, and are popular with mercenary formations. It is not uncommon to see a merc unit equipped with TL7 assault rifles and a TL10 information network system.

RECONNAISSANCE AND INTELLIGENCE

The most obvious form of electromagnetic spectrum intelligence comes from cameras and thermal imagers mounted on various platforms, including battlefield drones. However, much can be learned from the emissions of enemy units. Even if signals cannot be interpreted, the fact they are being emitted at all indicates something is there, and often the nature of a signal gives away its origins. Advanced sensors allow the user to 'see' electronic emissions either plotted on a map or displayed on a visor, allowing tactical decisions to be made based upon radio and sensor emissions from enemy forces that are otherwise invisible.

Electronic intelligence also touches on the field of cyber-warfare, but that is rightly considered a separate field by most military forces. Cyberwarfare units are maintained by advanced militaries, but their function is usually more strategic than tactical. A cyber-attack might be used to obtain information that is then fed to the troops at the front, or to cripple an enemy force's capabilities.

>> EQUIPMENT SECTION <<

Most battlefield electronic warfare equipment is built to a standard set of protocols, giving a 'plug and fight' capability providing the correct access codes are available. This makes a unit's data network a little less secure than a bespoke system, but the benefits in reduced cost are far greater than the risks.

Most electronic warfare equipment is used with the Electronics (sensors) skill.

Unit Data Network

A unit data network kit is designed to outfit a small unit of up to twelve personnel. Each soldier is provided with a personal heads-up display which can be in the form of a helmet visor, goggles or a holographic display unit carried on a headset. The unit also contains a small camera and scrambled data transmitter/receiver.

The display unit uses shielded electronics that are difficult to detect when not transmitting, and has a 'hold transmission/cease transmission' feature to allow a solider to 'go silent' if the enemy is scanning for transmissions. This deprives others of a data feed from the soldier's equipment but still permits reception, allowing a scout or sniper to advance into a scanned zone and take up position whilst receiving warning of electronic 'hotspots' and targeting information from sensors beyond the scanned area.

The unit's sensors include an electromagnetic radiation detection system, which has multiple uses. A simple audio tone is used to inform the soldier that they are close to a source of emissions, rising in pitch and pulse rate as the source gets closer and/or stronger. This is primarily useful for finding enemy forward observers and scouts using communications systems, or to locate targets during an infiltration mission. One additional benefit is the early detection of some advanced mines and traps, which often have electromagnetic emissions. The unit does not detect simple pressure devices.

Personal Heads-up Display

Although the individual soldier's kit is useful on its own, it is intended to be used as part of a unit's data network. One central processing/dissemination station is included in the kit. This is a 2 kilogram laptop-sized unit in a robust armoured case, which processes all data from individual kits and any other systems the unit is patched into. No additional sensors or equipment are provided in the basic kit.

The user of the processing station can let it run simple automated procedures – this is popular in units that lack electronic warfare experts – or can manually control what data it provides to whom. Automated procedures include:

TacMap
The unit can be set to feed a tactical map (usually seen from above or as an isometric offset) to all personnel in the network. The quality of information displayed depends on additional sensors available, but in the least the display shows a map of the combat area built up from soldiers' camera feeds and any plans accessed from available data networks. The TacMap shows the locations of friendlies who are transmitting and last known locations of those who are not.

If the unit has taken the time to set up report codes that can be interpreted by the automated unit – or an operator implements them manually – the status of friendlies can be indicated with various symbols. Knowing that the support gunner's weapon is not available can be useful, though information is of necessity limited. The symbol does not indicate whether the gun is down due to a malfunction, lack of ammunition or has been dropped in a well, but at least the squad knows they cannot rely upon it.

Hostiles and sensor contacts can also be displayed in this manner if they have been identified to the system. This is usually a matter of pointing the user's camera at a person or object and giving a one-word identification code. Threats such as mines and barbed wire can be flagged this way, along with suspected enemy strongpoints, objectives and any other points of interest.

If additional sensors are available, the TacMap feature can also display thermal or electromagnetic maps of an area, which can be overlaid to indicate the type of radiation detected and give an indication of the nature of the source. It is also sometimes used for planning or a 'virtual rehearsal' of actions the squad is about to take.

X-Ray Vision
With the right information feeds, a display can be created to provide images of what lies behind walls or other obstructions. This is inevitably referred to as 'X-ray vision' even though it has nothing to do with X-rays. The skill of the operator is important when attempting to interpret this sort of data in a tactical context – it is easy to become confused about what obstructions are on which side of the target. Thus the feature is more commonly used for specific purposes such as setting up a precise shot.

In this case, the operator of the main unit needs to make a Difficult (10+) Electronics (sensors) check. If successful, the tactical situation on the other side of a wall or obstruction is fed to a sniper or similar specialist. It is necessary to have sensors in place that can see the obstructed area, of course. Using this data, a sniper can fire at targets they cannot see using a normal Gun Combat or Heavy Weapons check. If the obstruction is solid, it will have to be penetrated (any additional Protection taken into account) but the sniper can shoot in the right place.

Automatic Alerts

The TacMap feature can be combined with additional sensors to alert the user if hostiles or unknown contacts move into certain areas, and run pre-selected responses if desired. For example, a unit could be set up to detonate mines or distraction devices such as flashbangs when someone who is not a member of the force enters a particular area. This feature must be used with caution as it can create chaos or result in collateral casualties, but in the right context it is very useful.

Item	TL	Kg	Cost
Unit Data Network	10	1 (each)	Cr30000 (Unit and
Central Station	10	2	Central Station)

Micro-Reconnaissance Drone Kit

Micro-Reconnaissance Drones, or MRD, resemble a tiny helicopter with a rotor span of less than 2cm. Four are provided in the kit along with a small control unit and set of goggles which display what the drones can see with their cameras. These include all-round thermal/optic units and a forward-facing high-resolution camera with an impressive zoom capability for such a small unit. The MRD makes very little noise and can pass through unexpectedly small spaces, enabling it to enter a building or even a vehicle the enemy thinks is immune to internal surveillance.

Item	TL	Kg	Cost
Micro-Reconnaissance Drone Kit	10	1	Cr500

Autohack Unit

An Autohack unit is a handheld device capable of semi-remotely interfacing with an electronic lock. 'Semi-remotely' in this case means the Autohack unit can operate from 2-3m away from the target, depending on how cluttered the local electronic environment is. It cannot penetrate complex systems such as computers, nor is it any use with simple electrical devices. However, an Autohack unit is capable of making a brute-force attempt to override or disable electronic locks using a code or similar single-function devices.

An Autohack unit can attempt to lock or unlock a door, or make the device carry out one simple function such as turning off a poorly secured robot or triggering/disabling an alarm. This takes 1D seconds per TL of the target, and is successful on a roll of 10+ on 2D. A DM equal to the difference in TL between the device and the target is applied. If the attempt is failed, the user can simply try again – though many electronic security systems have alarms or super-secure modes triggered by a hacking attempt.

The Autohack unit gains a DM equal to the difference between its TL and that of its target. However, it cannot penetrate a target of higher than its own Tech Level.

Item	TL	Kg	Cost
Autohack Unit	12	-	Cr900
Autohack Unit	14	-	Cr2000

Comspotter

A Comspotter is a very simple electronic sensor which picks up emissions from radio equipment and other systems that emit in the electromagnetic spectrum. It does not attempt to decipher the signals but indicates to the user the direction, distance and strength of the signal. If the signal is of a common type, the Comspotter will indicate its nature to the user. Occasionally a Comspotter can be wildly wrong, perhaps identifying the safety-zone radar of an automated cargo loading robot as an aerospace defence battery, but usually the transmission is pegged as being in the right general class. Thus, if the user is informed that there are emissions from personal communications radios 40m to the west and a radar-frequency emission 100m north, they can be reasonably sure they will encounter something similar when they investigate.

Item	TL	Kg	Cost
Comspotter	9	-	Cr100

Electronic Mapping Rocket

Mapping rockets are a cheap and simple way to obtain an electronic-systems map of an area – and to advertise your own presence to everyone within several kilometres. They are sometimes used by prospectors to find magnetic materials and explorers to map out the ruins of an advanced culture by its power conduits, but more are commonly used to build an instant picture of every piece of inductively responsive material within 500m.

The rocket is launched over the target area and explodes, creating a weak electromagnetic pulse. Inductive materials such as wiring, electronic systems. and any object or structure that contains materials like iron or nickel will respond to the pulse, which is not strong enough to damage anything but sufficient to induce a small electrical current in electronic systems or materials that shield them. A separate sensor, included in a unit data network (page 105) or available as a reusable standalone device

for Cr300, picks up induced currents and creates a map of the area. Non-inductive materials such as brick walls are totally invisible to the mapping system but their presence can be inferred from the wiring running along them or similar secondary indications.

Item	TL	Kg	Cost
Electronic Mapping Rocket	9	1.5	Cr100

EMP Pulser

An EMP Pulser is a device small enough to be carried on a belt or in one hand. When switched on it emits a powerful electromagnetic pulse capable of overwhelming nearby radio receivers and similar devices with static. The pulse will not affect military electronics of TL9+, or civilian systems of TL11+. It will render radios and other systems useless within 50m, and provides an unmissable emergency beacon for distressed personnel. The pulse is detectable to 5-10km or more with good sensors such as those aboard a starship, and cannot escape notice within one or two kilometres with even the most rudimentary scanning equipment. However, its main purpose is to 'white out' communications of enemy personnel within a combat area.
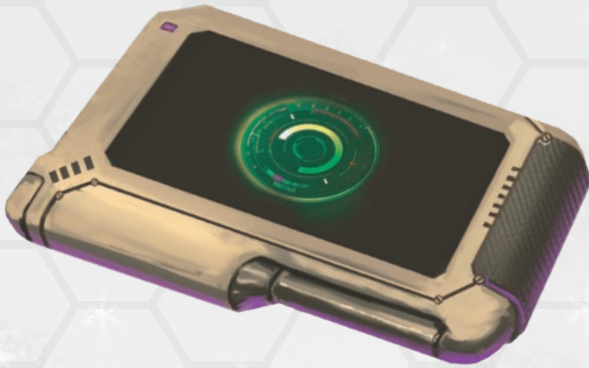
Item	TL	Kg	Cost
EMP Pulser	9	0.5	Cr200

Stickams

Stickams are disposable wide-angle cameras with limited low-light and thermal capability, contained in a nearly flat palm-sized unit that can be slapped onto almost any surface. Stickams normally stay stuck to the target surface indefinitely until activated but have power only for 3-5 days. They communicate by low-powered radio frequency transmissions and can be used to create a net covering a base or secured area. A pack contains ten stickable-cameras (stickams) which cannot be recharged. Power comes from a slow chemical reaction in the gel which also serves as an adhesive; stickams will fall off their surfaces once discharged. They are not obtrusive but will be spotted in a search.

Item	TL	Kg	Cost
Stickams	9	2	Cr250

ZHODANI MILITARY ORGANISATION

The Zhodani Consulate uses a different military organisation to the Imperium, for a variety of reasons. One is the long development of the Consulate; another is the highly stratified nature of Zhodani society. The inclusion of psionic units also imposes different requirements to militaries deploying more conventional forces.

For conventional forces, Zhodani terms have been replaced with their nearest Imperial equivalent for clarity. Specialist formations use a different terminology better suited to their unique nature. The majority of Zhodani forces are composed of lift infantry, a predominantly infantry force with grav transport and support from artillery and armoured vehicles. Lift infantry formations are mobile, resilient and adaptable, making them capable of handling most tasks without requiring the use of specialist forces.

LIFT INFANTRY BATTALION

The lift infantry battalion is one of the most common ground formations of the Zhodani military. These units comprise 32% of the Zhodani combat battalions known to be in the Spinward Marches. In Consular Guard formations, two lift infantry battalions are found in the lift infantry regiments and lift mechanised regiments of their respective divisions. In regular army formations, there are three lift infantry battalions in the lift infantry regiments of a lift infantry division, two in the lift mechanised regiments of a lift mechanised division and lift cavalry division, two in the grav tank regiment of a grav tank division, and one in the grav tank regiment of a lift cavalry division.

The lift infantry battalion is organised along standard lines, with a headquarters company and four rifle companies for a total of 799 personnel. Most of these vehicles are grav sleds of one sort or another, typically variants of the same design to ease maintenance problems. The same organisation is used in both lift infantry and lift mechanised regiments. The difference between the two is in the number and type of other battalions in the regiment.

Headquarters Company

The headquarters company contains a point defence platoon, nuclear damper section, maintenance platoon, quartermaster platoon, medical platoon, communications platoon, psionic detachment and command post platoon, for a total of 167 personnel. As with all combat formations, this 'paper' strength can vary considerably in the field.

HQ COMPANY

Command Post Platoon

- Command Group ▶ 2 Command Sled
- Intelligence Section ▶ Command Sled
- Communication Section ▼
  - Laser/Maser/Radio (LMR) Communications Sled
- Computer Team ▶ Battle Computer Sped
- Electronic Warfare Team ▶ EW Sled

Point Defence Platoon

- 4 Point Defence Sled

Nuclear Damper Section

- 2 Nuclear Damper Sled
- Light Utility Sled

Maintenance Platoon

- 2 Repair Van Sled
- 2 Recovery Sled
- 2 Utility Sled

Quartermaster Platoon

- Light Utility Sled
- 6 Utility Sled

Medical Platoon

- 3 Grav Ambulance
- Surgical Van Sled

Communications Platoon

- Meson Communications Sled
- 2 LMR Communications Sled

Psionic Detachment

- Scout Group ▶ 4 Scout Grav Sled
- Recon Group ▶ 4 Grav APC
- Assault Group ▶ 6 Light Grav Sled

The psionic detachment consist of a scout group, recon group, and assault group. The scout group's vehicle commanders and assistant vehicle commanders are psi talented, with telepathy and/or clairvoyance abilities. Additionally, the recon group contains eighteen commissioned specialists, all psi talented, with clairvoyance. The assault group consists of six assault teams. Each team has two scramblers and one director. Scramblers have telekinetic abilities, while the director has clairvoyance and telepathy.

Rifle Company (Lift)

Rifle companies are the backbone of the lift infantry. All personnel in a lift infantry division are equipped with combat armour and most are armed with gauss rifles and RAM grenades. Each squad of a rifle company has one PGMP-14 as a support weapon. Individually-carried tac missiles are issued as the tactical situation warrants. Lift infantry battalions in grav tank, mechanised infantry and lift cavalry regiments are equipped with combat armour and armed with PGMP-13s, while FGMP-14s are used as the squad support weapon.

Each rifle company contains a headquarters and weapons platoon plus three line platoons.

RIFLE COMPANY

Headquarters and Weapons Platoon

| Headquarters Team | ▶ | Command Sled |

Electronic Warfare Team

EW Sled

Recovery Team	▶	Recovery Sled
Fire Direction Centre Team	▶	FDC Sled
Indirect Fire Team	▼

Multiple Rocket Launcher Sled

| Direct Fire Team | ▶ | Gun Sled |

3 Line Platoon

Headquarters Team	▶	Grav Sled
Point Defence Team	▶	Point Defence Sled
3 Rifle Squad	▶	Grav APC

The main fighting strength of a rifle company is its rifle squads. Each rifle squad contains one NCO, one gunner, one vehicle commander, eight infantry, and one grav APC. Each rifle company contains 158 personnel.

Tactical Employment

Zhodani doctrine for the employment of lift infantry is almost identical to Imperial doctrine, so only the use of the psion detachment will be dealt with here. The scramblers of the assault teams are most often used in conjunction with attacks on enemy fortified positions which cannot be neutralised by firepower. Immediately prior to the infantry assault on the position, scramblers will disrupt the defence by telekinetically pulling pins on grenades, squeezing triggers on defenders' weapons, activating safeties, and so forth.

Troops experienced in combat with Zhodani troops are accustomed to such tactics, and take steps to minimise the effects. Fortified positions are provided with grenade sumps and troops are careful to either keep weapons pointed outwards through embrasures or unloaded. Nevertheless, the scrambler assault will clearly mark the position for non-psionic assault troops and supress the defenders' ability to fire for several seconds. Properly exploited, this is often a critical advantage for the attackers.

COMMANDO GROUPMENT

The Zhodani commando forces are considered by some experts to be the most dangerous troops opposing the Imperium. Even though the 95 groupments (battalion-sized units) known to be in the Spinward Marches represent only 2% of Zhodani combat battalions in the sector, the commandos cause disruption and morale deterioration greatly out of proportion to their actual number.

Jump commando groupments are part of each jump regiment of a jump division, and one jump commando groupment is attached directly to each lift infantry and lift mechanised division. Three groupments (two jump) are attached directly to a Consular Guard corps as part of the corps troops. In regular army formations, one groupment is attached to each corps.

Unlike other Zhodani units, which have only a small detachment of psionic specialists attached to each battalion headquarters, most of the personnel in a commando groupment (422 out of 531) are psi talented. Of these, 36 are clairvoyant/telepaths and 384 are teleporters. All psi talents in the Zhodani armed forces are issued autoinjectors of psi-enhancing drugs, though a commando groupment will seldom make more than two jumps per day, and never more than three. Distances travelled rarely exceed 5 to 50 km because of the disorientation involved and effects of energy and momentum differences.

A point of minor interest is the fact that the unit consists largely of officer-equivalents. In the Zhodani military, those with psionic talents cannot hold enlisted rank. The lowest rank held by a psionic talent is that of commissioned specialist, roughly equivalent to the lowest officer grade in the Imperial military. Commissioned specialists are officers by virtue of their special talents, however, and though they hold officer equivalent rank they are not in the chain of command and do not give orders. An example in the Imperial military is that of a military doctor, who holds a commission and officer-equivalent rank, but is not in the chain of command.

In addition, some positions require both psi talent and command responsibilities, such as the commander of a groupment. The reason for this is that any Zhodani with psi talent is automatically made a member of the upper classes (Intendants or Nobles). Technicians, drivers, gunners, non-commissioned officers (NCOs), and so on are proles.

A commando groupment is organised into a headquarters squadron and three commando squadrons. Jump commando groupments are organised identically, the only difference being that all personnel are jump trained. The commando groupment contains a total of 531 personnel and 59 vehicles.

Headquarters Squadron

The headquarters squadron is lightly equipped and intended for rapid mobility. It contains all the support elements for the groupment, plus a small security/reserve force.

Although Zhodani commandos make attacks using teleportation, they require considerable backup as only a limited amount of equipment can

HQ SQUADRON

Command Post Detachment (Platoon)

> HQ Group
>> 2 Command Sled

> Intelligence Group
>> Command Sled

> Communications Group
>> Laser/Maser/Radio (LMR) Sled

> Computer Group
>> Battle Computer Sled

> Electronic Warfare Group
>> EW Sled

Communications Detachment
> Meson Communications Sled
> LMR Sled

Medical Detachment
> 3 Grav Ambulance

Nuclear Damper Detachment
> 2 Nuclear Damper Sled

Point Defence Detachment
> 2 Point Defence Sled

Security Detachment
> 2 Grav APC

be carried when teleporting. The headquarters squadron may be in close proximity to the jumping-off point or may be held safely back, screened by conventional troops.

Commando Squadron

The commando squadrons are the main striking force of the battalion. Personnel are equipped with battle dress and PGMP-13s, with the FGMP-14 as squad support weapon. Troops not intended to directly engage the enemy as a primary role, such as drivers and communications personnel, use combat armour and are equipped with gauss rifles. Personnel ride in grav APCs when not making a teleporting attack.

COMMANDO SQUADRON

Command Detachment

> **Command Sled**

Transport Detachment

> **13 Grav APC**

3 Commando Detachment

> **Command Detachment**
>
> **4 Commando Group**

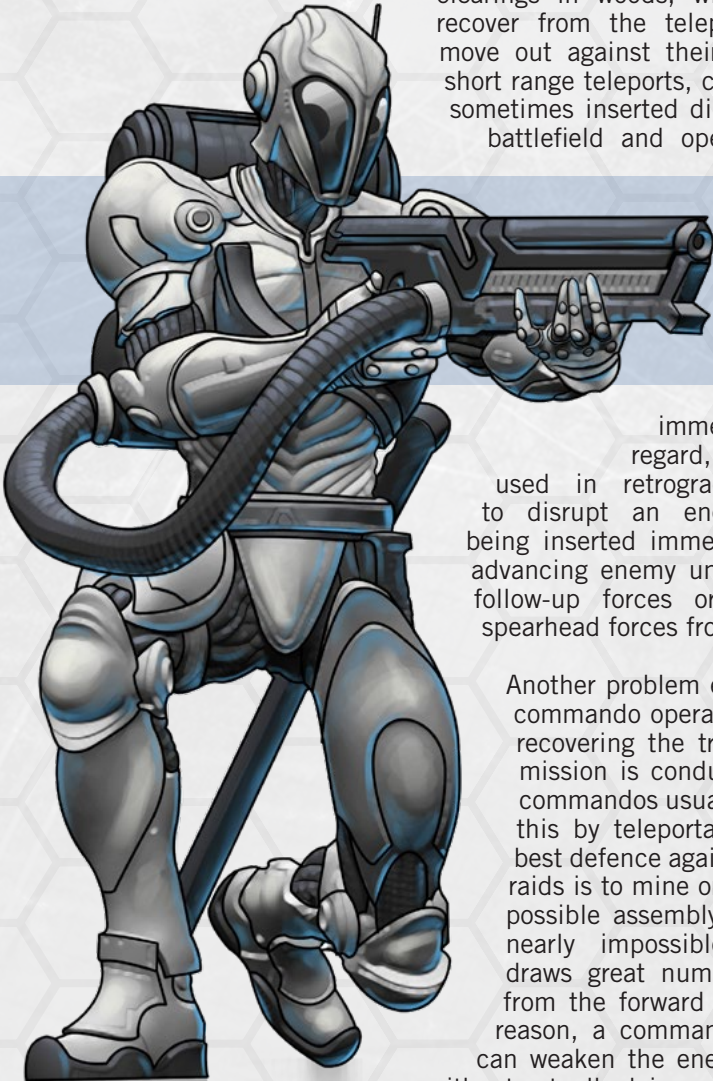Each commando detachment consists of a detachment commander holding the equivalent rank to an Imperial Army major and a detachment vice-commander equivalent to a captain. Both have the teleport talent. Each of the four commando groups contains a group leader (captain), an assistant group leader (lieutenant), a group director (lieutenant), a clairvoyant/telepath, and eight commissioned specialists. All personnel are teleporters.

Tactical Employment

The principal difficulty of most commando operations lies with inserting the commando force behind the enemy lines in close proximity to its target. Zhodani commandos accomplish this by psionic teleportation, and recruits for commando units are chosen solely on the basis of their talent in this field. Zhodani commandos do not occupy the role of elite combat troops, unlike most other armies.

In long-range penetration missions, where teleport disorientation is to be expected, commandos jump to previously reconnoitred safe areas, such as small clearings in woods, where they can recover from the teleport and then move out against their objective. In short range teleports, commandos are sometimes inserted directly onto the battlefield and open fire almost immediately. In this regard, they are often used in retrograde operations to disrupt an enemy advance, being inserted immediately behind advancing enemy units to ambush follow-up forces or even attack spearhead forces from behind.

Another problem encountered in commando operations is that of recovering the troops after the mission is conducted. Zhodani commandos usually accomplish this by teleportation also. The best defence against commando raids is to mine or monitor every possible assembly point, a task nearly impossible and which draws great numbers of troops from the forward lines. For this reason, a commando groupment can weaken the enemy's defences without actually doing anything.

GROUND VEHICLES

LING STANDARD PRODUCTS
'PORT PORTER' TRANSPORT VEHICLE

The Port Porter is a simple, cheap utility vehicle intended for use by anyone needing to move a modest amount of equipment or cargo around a safe environment. It is a no-frills vehicle but a highly useful one which can be encountered almost anywhere.

Built on a light ground vehicle chassis in pickup truck configuration, Port Porters are often customised to fulfil other roles, especially at backwater ports where more advanced transportation is unavailable. They can thus be encountered with a closed van at the rear instead of open cargo area, or with passenger seats for service as a rather crude starport bus. In this configuration it is common to fit a fabric awning over the passenger area to keep sun and light rain off, leading to this sort of vehicle being disparagingly known as a 'clothtop'. Port Porters also serve as transport for ground crews and carry their equipment, which may be permanently secured in the pickup bed.

PORT PORTER TRANSPORT VEHICLE

Armour

Front	2
Sides	2
Rear	2

Traits

-

TL	8
Skill	Drive (wheel)
Agility	+0
Speed (cruise)	Medium (Slow)
Range (cruise)	400 (600)
Crew	1

Passengers	3
Cargo	1
Hull	24
Shipping	6 tons
Cost	Cr 9500

Equipment	• Communications System (improved), • Control System (basic), Fire Extinguishers
Weapons	-

Equipment

Autopilot (skill level)	0
Communications (range)	500 km
Navigation (Navigation DM)	-
Sensors (Electronics (sensors) DM)	-
Camouflage (Recon DM)	-
Stealth (Electronics (sensors) DM)	-

LING STANDARD PRODUCTS
'PORT PROTECTOR'
LIGHT SECURITY VEHICLE

Built on the same chassis as the Port Porter, the Port Protector is visually identical unless weapons are mounted, though most operators choose to make their security vehicles highly visible as a deterrent. Almost everything about this vehicle is upgraded from the original design, from suspension to sunroof glazing. Improved communications and control systems are backed up by an autopilot with an 'autopatrol' setting. This allows the vehicle to be sent out without a crew if necessary, conducting a sensor patrol of the installation perimeter. This is useful for fence-checking and similar routine tasks if more specialised equipment is not available.

Whilst not any faster than the humble Port Porter, the Port Protector handles much better and can cross rugged terrain. This, combined with its extended range, has prompted some observers to wonder if the vehicle was not intended for a different market to installation security. No weapons are fitted as standard but the pintle mount can take any light support weapon such as a machinegun. This has made the Port Protector popular with armed security firms operating on mid-tech worlds, low-budget mercenary units, and various flavours of insurgent group. When serving as a light weapons carrier a vehicle of this type is usually known as a 'technical'.

Nominal crew is five – four in the cab and one in the pickup bed manning the pintle weapon. However, additional personnel can be piled into the rear of the vehicle with a considerable degree of discomfort when making a short trip. The cab and critical systems are armoured against intermediate calibre rifle fire – they will protect against small arms long enough to return fire or escape, but offer little protection against anti-vehicle weapons. This is a perfectly acceptable trade-off in a Cr46000 vehicle, say the manufacturers, and the marketplace seems to agree with them. Port Protectors are a standard security vehicle throughout much of Charted Space.

PORT PORTER LIGHT SECURITY VEHICLE

Armour

Front	10
Sides	10
Rear	10

Traits

Off-roader

TL	8
Skill	Drive (wheel)
Agility	+1
Speed (cruise)	Medium (Slow)
Range (cruise)	500 (750)
Crew	5

Passengers	0
Cargo	0.25 tones
Hull	26
Shipping	6 tons
Cost	Cr 46 000

Equipment	• Autopilot (basic), • Communications System (improved), • Control System (improved), • Fire Extinguishers, • Sensor System (improved)
Weapons	• Pintle Mount (front) • Gun Port (left) x 2 • Gun Port (right) x 2

Equipment

Autopilot (skill level)	0
Communications (range)	500 km
Navigation (Navigation DM)	-
Sensors (Electronics (sensors) DM)	+1
Camouflage (Recon DM)	-
Stealth (Electronics (sensors) DM)	-

LSP-JCSDB MODEL 12

The Third Frontier War (979 to 986 Imperial) deviated from previous wars with the Zhodani. Whereas they were characterised more by large planetary sieges, the Third saw much more commerce raiding, attacks on outlying planets within star systems, and other smaller actions. A need for a system defense boat with limited jump capabilities surfaced, one able to relocate itself to a nearby stellar companion or another system that was threatened.

In early 983, the first of the Ling Standard Products Jump Capable System Defense Boats Model 12 floated out of the drydocks around Regina. Critics immediately lambasted the idea of calling any vessel capable of jump travel a 'boat' but the designers stuck with the name. Since the vessel's primary intention was for extended operations within a star system, they felt the name appropriate.

Built around a 500-ton hull, the sleek, aerodynamic vessel is at home in both atmosphere and space. Its integrated fuel scoops and purification plant allows it to replenish its fuel tanks from multiple sources, including liquid water or gas giant atmosphere. Fuel is typically not a problem, however, unless the jump drive is utilised. Once the tank is full, the fusion power plant can sip the jump reserves and operate at full power for over a year. If the crew powered down most systems, especially the hungry manoeuvre drive, the vessel could operate for many years without needing to refuel.

With extended duration in mind, crew comforts were not ignored. Unlike most military vessels, the LSP-JCSDB provides private quarters for each crew member. The additions of a library, workshop, biosphere, and plenty of common areas help to alleviate the stagnation felt by most crews on station.

Deviating from the standard armament of its class, the LSP-JCSDB lacks missile weapons. The designers felt equipping the vessel with such weapons would detract from its endurance by necessitating the need to rearm. Instead, the class relies on its small particle beam bay to serve as its heavy hitter, backed up by a pair of particle beam barbettes. Combined, the three weapons are capable of dealing with any threat in the vessel's class. A pair of triple pulse lasers were added for lighter duty and missile defence.

Rounding out its list of equipment, the LSP-JCSDB includes a breaching tube and tow cable for any vessel that needs to be dealt with up close, along with a brig to incarcerate captives. The addition of the ship's boat gives the crew flexibility to be in two places at once, if needed. The housing for it easily facilitates removal and replacement, allowing the drive itself to be manufactured at a different location than the vessel and inserted upon completion.
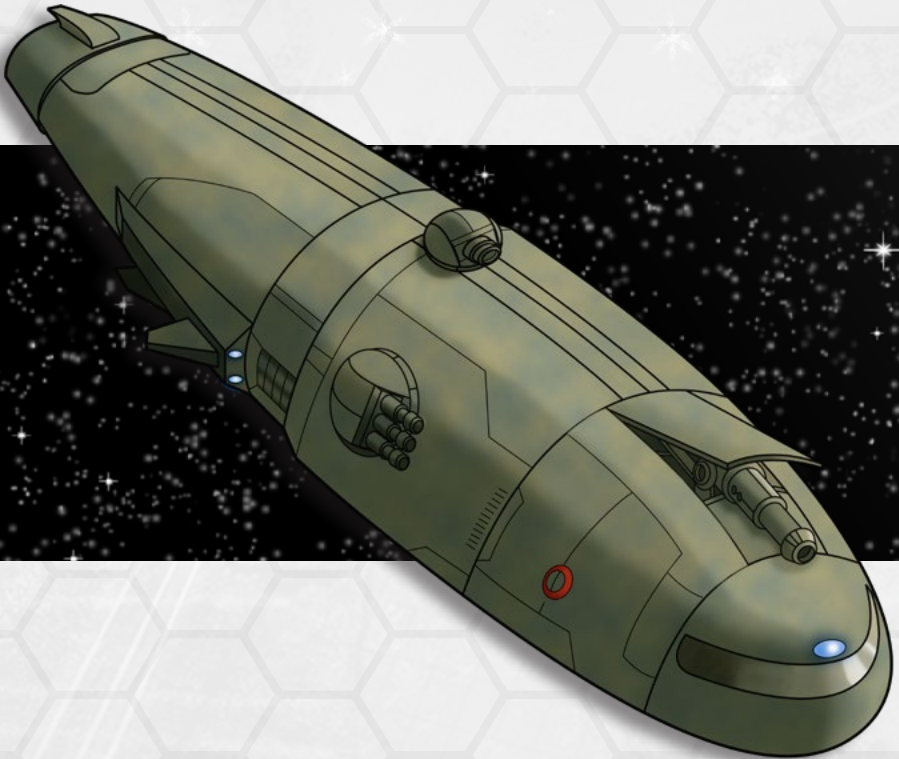
CREW

Captain, Pilot/Astrogator x3, Engineers x3, Maintenance, Gunners x5, Small Craft Pilot, Medic

RUNNING COSTS

Maintenance Costs: Cr21969/month
Purchase Costs: Mcr263.63

LSP-JCSDB MODEL 12

TL 12		TONS	COST (MCR)
Hull	500 tons, Streamlined, Radiation Shielding	-	42.5
Armour	Crystaliron, Armour: 12	75	18
M-Drive	Thrust 6 (increased size)	37.5	56.25
J-Drive	Jump 1 (energy inefficient)	17.5	19.6875
Power Plant	Fusion (TL12), Power 525 (increased size)	43.75	26.25
Fuel Tanks	J-1, 4 weeks of operation	55	-
Bridge	Holographic Controls	20	3.125
Computer	Computer/20 (hardened)	-	7.5
Sensors	Improved, Improved Signal Processing	4	8.3
Weapons	Triple Turrets (pulse lasers, long range, high yield) x2	2	12
	Particle Beam Barbettes (increased size) x2	12	12
	Small Particle Bay (increased size)	60	15
Systems	Docking Bay (30 tons)	33	8.25
	Ship's Boat	-	7.272
	Fuel Processor (20 tons/day)	1	0.05
	Biosphere	7.5	1.5
	Repair Drones	5	1
	Armoury	2	0.5
	Breaching Tube	3	3
	Tow Cable System	5	0.03
	Brig	4	0.25
	Library	4	4
	Workshop	6	0.9
	Medical Bay	4	2
Staterooms	Standard x15	60	7.5
Software	Jump Control/1	-	0.1
	Fire Control/2	-	4
	Library	-	-
	Manoeuvre/0	-	-
	Evade/1	-	1
Software	Auto-Repair/1	-	5
Common Area		15	1.5
Cargo		25.25	-
		Total:	263.63

HULL POINTS
200

1sq = 1 ton

Fuel
1.5m high

20 21 9 6 8 7 13 15 16 14 12 11 17 18 19 20 10 4 5 3 2 22 1 21
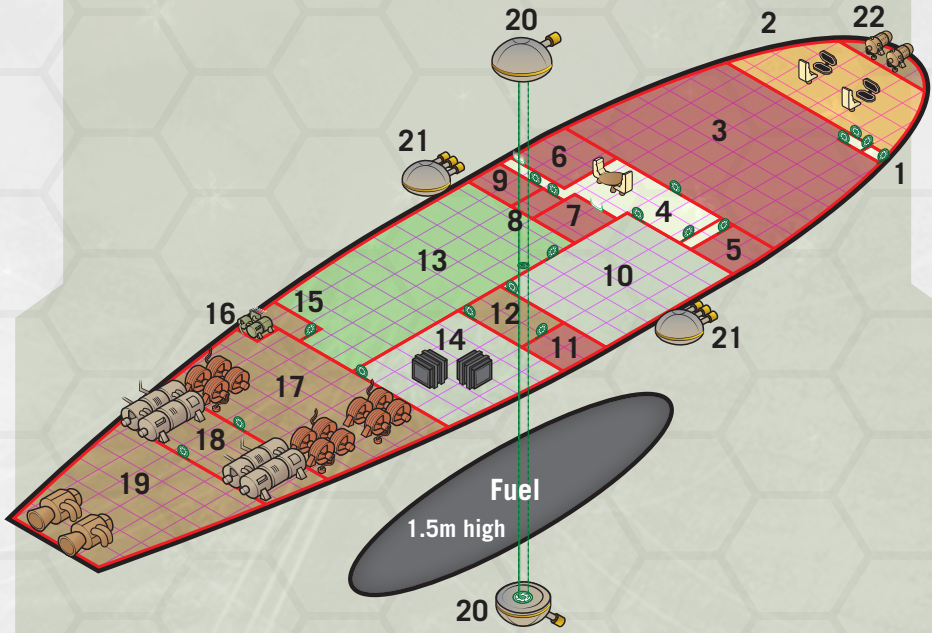
LEGEND
1. Air lock
2. Bridge
3. Small particle bay
4. Common area
5. Brig
6. Biosphere
7. Library

LEGEND
8. Armoury
9. Breaching tube
10. Docking area
11. Drones
12. Workshop
13. Staterooms
14. Cargo hold
15. Tow cable system
16. Fuel processor
17. Power plant
18. Jump drive
19. Manoeuvre drive
20. Particle beam barbettes
21. Pulse laser triple turret
22. Sensors

POWER REQUIREMENTS

Basic Ship Systems	100
Manoeuvre Drive	300
Jump Drive	65
Sensors	5
Weapons	86
Fuel Processor	1