

SCIENCE-FICTION  
ADVENTURE IN  
THE FAR FUTURE

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# TRAVELLER

Referee's Aid 3: Type-A Free Trader

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## REFEREE'S AID 3:TYPE-A FREE TRADER

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# INTRODUCTION

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This book contains source material for Traveller. It follows the general style of the original 'Little Black Books' or LBBs published as part of the Classic Traveller product line. The source material in this book is intended for use with a science-fiction game setting that follows the general standards and assumptions of the Third Imperium, notably:

Interstellar travel is by way of the jump drive  
No means of interstellar communication exists other than sending a ship via jump drive  
Interstellar travel is common enough that small starships can be owned and operated by individuals and small companies  
An interstellar society exists which contains mainly humans but also various alien races  
Local conditions, culture and society can vary considerably from one world to another  
Energy weapons are possible but rare; conventional and advanced firearms are the standard weapons in use  
There are no energy shields, tractor beams or teleportation devices available at the 'mainstream' technological level of the setting

The following data is provided for the benefit of the Referee. How much of it can be determined by the players, and with what degree of accuracy, is a matter for the Referee to decide. In many cases a simple search on the ship's computer or any library terminal will suffice to provide at least the bones of the information.

## THE THIRD IMPERIUM

The Third Imperium is a human-dominated empire, subdivided into sectors and subsectors. It is not a vast, monolithic structure; that would be impossible given the time lag inherent in interstellar communications. Instead, the Imperium resembles a vast federation of worlds that agree to certain common practices, and allow the Emperor and his subordinates to deal with foreign policy, military affairs and similar multi-world considerations while maintaining control of their internal affairs.

As distance from the Imperial Core increases, so does the amount of autonomy enjoyed by world governments and Imperial representatives. However, this is uneven. There are hubs of trade and commerce as well as backwaters in many areas. The major worlds often maintain strong cultural and economic ties to the central region of the Imperium, though some have their own flavour entirely. These hub worlds influence local culture in the same way (but on a smaller scale) that the Imperial Core influences the worlds of the periphery.

Between these major hubs, most of which are high-tech, high-population industrialised worlds, run the main trade lanes of the Imperium. These are well patrolled by the Imperial Navy and even when they pass through backwater systems they tend to be fairly safe. Along these lanes move the huge bulk freighters of the major shipping corporations as well as smaller couriers and mail ships. Less affluent worlds off the main trade lanes are not capable of supporting the giant freighters, so are served by smaller vessels, with ever-smaller branches coming off the trade routes. True backwater systems cannot support any regular trade, and see only occasional tramp traders coming through on a speculative basis or on their way somewhere there is better money to be made.

Since there is no means of communication between worlds other than a starship, those systems that do not see many ships tend to be culturally isolated and often well behind the curve in terms of news, fashions and information in general. These systems often do not see more than the occasional navy patrol, and can be hazardous. These backwaters are by no means violent maelstroms of piracy and smuggling, but they offer those with a reason to hide from the law a place where they are unlikely to be disturbed unless the Navy sweeps in on a clean-up. That does not happen very often, but if a situation gets out of hand the authorities will respond. Most of the rest of the time, life goes on in the backwaters as it always has, and the Imperium is a distant thing.

## FREE TRADERS AND THE TRADE NETWORK

As noted above, most of the bulk freight in the Imperium moves aboard huge megafreighters down the major spacelanes, through ports equipped to handle loading and unloading of such enormous ships. Bulk cargo handling of this sort is a complex business, using specialist robotic equipment that includes cranes, gravitic lifting and mobility pallets and handler robots for most of the physical work. Heavy cargo containers moving fast are the hallmark of bulk commerce, making the unloading dock a hazardous place to be.

The cost of this equipment is one reason that smaller starports do not support the megafreighters, though often they will pass through and refuel on the way to somewhere else. Many of these large ships have smaller cargo holds that can take non-bulk goods, but often the extra turnaround time is not usually worth the slight increase in revenue. Margins are not always large in bulk freighting, but the sheer amount of goods moving ensures that there is good money to be made. Distractions from the primary task of delivering the main cargo are usually counterproductive.



Thus, only a few worlds receive goods directly from the megafreighters, and even those are also served by smaller vessels. A cargo totaling thirty tons is not really worth the time required to deal with the paperwork and to load it aboard a megafreighter, but it still has to be moved. Regular services carry much of this assorted lesser cargo (and some minor 'semi-bulk' freight) between the larger ports, with the extra bits and pieces picked up by small merchant ships. For backwater ports these smaller vessels may be the only ships that come through, and some do not merit a regular service. Tramp traders and similar small vessels visit these ports whenever they are passing. Since their costs are relatively low compared to a major freighter, they can often make a decent living from the small volumes of cargo that are available, plus some speculative trading.

Perhaps ironically, some of these small backwater ports become important hubs for the minor freight industry or the many free traders who wander the spacelanes. Since the big players are absent, a much smaller volume of cargo can become significant. Thus it may be that an all-but-forgotten Class D port in some backwater system sees several small trade ships coming through each week and has a bustling small-volume marketplace for offworld goods. Such ports often grow and end up attracting the bigger shipping companies, but this is a slow process.

This trade network encompasses almost all the worlds of the Imperium and has tendrils reaching out across the border. Many of the cargo containers shipped along the spacelanes are full of single-item loads. For example a vessel might load

37 one-ton cargo containers of steel ingots and 12 containers of industrial robotics components. However, some containers transport 'general small goods' which can be quite a mix of items. Most small packages sent by individuals travel this way. They are loaded into a container to be conveyed to the nearest major port to the destination and then sorted for transfer to the final destination.

It is not very expensive to send an item this way. Someone who is working far from home might receive a package from home, mailed to her across a couple of sectors for a few credits. Delivery to a major destination is pretty quick – as fast as the cargo ships can jump. However, delivery time to backwater worlds can be quite long unless there is a dedicated mail ship or a regular cargo run. The reason this inexpensive interstellar mail system is possible is bulk. The system is already in place, so it is just a matter of placing the item into the trade network and waiting for it to reach its destination.

Note that there is a difference between 'general small goods' and what the Imperial authorities officially refer to as mail. Mail, in this context, consists of relatively high value items or materials that must be secured, and must be shipped aboard a registered mail ship – which must be armed. Mail is carried in a secure cargo area with handover protocols at each end. Variously termed 'official mail' and 'secure mail', items sent this way are well protected and delivery is assured by the existence of registered mail ships. Most mail ships are tied to a regular run, though in some cases mail deliveries are made by a ship operating in the area and contractually obliged to visit all destinations on its route at least once within a set period. In backwater areas this can be three months or sometimes even more, but putting an item into the official mail system, whilst not cheap, guarantees delivery within a predictable time frame. Vessels on a mail contract are paid a flat Cr25,000 at each port they serve, even if there is only a small amount of mail to be delivered.

Items sent by 'general small goods' are usually also referred to as mail by the recipient, but they are shipped as and when space is available. On the major spacelanes this sort of delivery can be as fast as official mail, but in other areas a package can languish for months waiting for a ship going the right way with space to spare. Sorting is also not always quick, but eventually a package will reach the closest major port aboard a general-small-goods container and be broken out. From there, items are usually loaded as 'sundries' to be stowed wherever the carrying vessel can fit them. Any freighting contract will likely include a few sundry packages to be delivered to the destination port's handling office. These then can be picked up at the starport by the recipient or continue their journey by local means.

## MAINS AND CLUSTERS

Regions where there are several star systems close together (within jump-1 of one another) are termed clusters, whilst chains of star systems a parsec apart are known as mains. Jump-1 ships can ply a main or operate within a cluster, but a higher jump ship is necessary to cross to another main or cluster. Jump-1 trade is efficient in many ways, in that less of the ship needs to be used for fuel and so more cargo can be carried, but the tradeoff is slower movement of goods over greater distances.

For this reason there is room in the interstellar commercial marketplace for a variety of vessels. Jump-1 ships carry routine cargo over short distances or deliver freight that is not time-critical in the most cost-effective manner. Jump-2 ships can reach more destinations or get goods to market quicker but at higher costs. Vessels capable of jump-3 or higher are not, for the most part, commercially viable in routine local trade, but are useful on long-haul routes. High-jump ships are (obviously) faster but the ability to bypass systems with inadequate starports is also an advantage. The cost of high jump capability in terms of vessel and fuel cost means that typically only high-value time-sensitive goods are shipped this way or very large volumes of freight on a low unit profit margin.

Other than these high-jump vessels, which have more choice about the routes they can take, most trade and cargo moves along the mains or within clusters, which can create numerous local economic zones within a sector. Some Free Traders and similar vessels operate for their entire career on a single main or within a particular cluster. Others wander around a lot more, though this can be risky in terms of predicting what sort of market exists in a new area. Relocation is often forced by tough economic conditions in the present locality or excessive competition from other trade vessels. Sometimes a ship relocates for other reasons, such as after a charter that involved a long transit – it may be far more profitable to continue trading in the new area than to make another trip back and hope to turn a profit along the way.



# THE TYPE-A FREE TRADER AND VARIANTS

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The term 'Free Trader' can refer to a general type of small merchant ship, a person who crews one, or a specific design of vessel. However, the term is most accurately used to describe a type of commercial activity in which a vessel engages in a mix of speculative trade, freighting, passenger work and perhaps the odd charter without following a set route. The Type-A Free Trader is a design optimised for this kind of work – hence its name – but can of course be used for a variety of purposes.

The Type-A Free Trader was developed long ago to provide efficient, low-cost transportation for small cargoes and a few passengers. It is an eminently useable design which has been adapted to many other roles, but ultimately is optimised for moving almost half its tonnage in cargo from one star system to another.

The Type-A is, more than anything else, cheap. Its sensor fit is basic and its flight controls are minimal. It does, however, have a large cargo area and reasonable passenger accommodation, and since these are the tools of its trade, not wasting tonnage or money on anything else can be considered a plus. As a result of its efficiency in the small-transport field, the Type-A is one of the commonest starships in charted Space. It is primarily used by small shipping firms (many of them single-vessel outfits) but is also operated by many governments as a mail ship or even a naval auxiliary. Numerous owner-operators (as distinct from small shipping companies) also find this design effective.

Type-A Free Traders are also frequently used for non-mercantile transportation or converted into other roles. Examples include serving as transport for small mercenary units or scientific expeditions, conversion to a salvage ship or even acting as a rather low-budget private yacht for a minor noble unable to afford a more expensive vessel.

The Type-A2 Far Trader is a variant on the Type-A concept rather than on its design. Also created as a low-cost, no-frills small transport, the A2 has a much smaller cargo hold as it needs to accommodate a larger jump drive and – more importantly – enough fuel for jump-2 operations. The general concept is very similar to the Type-A, with the vessel built around a central cargo hold on the main deck, with control spaces forward and engineering aft. The upper deck contains passenger accommodation on both designs.

Both of these vessels are highly suitable for low-volume freighting, in which the vessel's operators are paid a flat fee per cargo container they carry, or speculative trading. The latter is more risky but offers the chance of a large profit if the market conditions are predicted correctly. In speculative trade the ship's operator buys the cargo and owns it until it is sold to someone else. Whatever profit or loss is made is his to keep. There are of course risks inherent in this kind of operation, and

not just the possibility of losing money on what seemed like a promising cargo.

When carrying freight, the ship owner and crew have a measure of legal protection if the containers turn out to be full of contraband. Containers are sealed when loaded and the crew have no access to them (unless they illegally open a container for some reason), so in most localities would be safe from prosecution providing the paperwork is in order. Some worlds might still hold the crew responsible for contraband however, which makes the dodge of using a shell company as the 'owner' of an illicit cargo rather less effective. In most cases, however, a crew shipping properly sealed and documented containers should be safe from prosecution if they turn out to contain something they are not supposed to. The crew may still have to show that they took due care to make sure the containers were safe and had not been tampered with.

As the owner of a cargo, the crew is liable for it. In many cases it is not illegal to have prohibited items aboard a ship if they are destined for somewhere else, but again some ports have different rules and a wise trader captain studies the local regulations before landing with something questionable in the cargo hold. The authorities are also likely to be aware that it is easier to smuggle illegal goods within a speculative cargo than aboard properly sealed freight containers. Speculative cargoes are more likely to attract official attention for this reason. However, despite the inconveniences that can accompany speculative trading it is sometimes very lucrative.

Passengers are carried aboard many vessels. There are regulations about the level of service that must be provided to paying passengers; a vessel that does not meet the standards for High Passage will not get away with charging for it. In practice, most Free Traders cannot provide the same level of service that a liner would offer even at Mid Passage levels, but it is still usually possible to get a High Passage certification if the right boxes are ticked.

Any passenger ship must have a designated medic and steward, who must be able to show at least a basic level of training. No steward is required for Low Passage of course, but the medic is still essential. Many starports do not enforce any rules about whether or not a vessel can charge High Passage rates so long as these requirements are met, but quite a number do. Besides, many passengers who feel that they are not getting what they paid for can be difficult. Thus, to obtain a High Passage license where one is needed, a ship must be able to offer suitable accommodation, some recreation facilities and entertainment provided by the crew, and properly qualified stewards and medics. Skill level 1 or higher usually suffices, but some ports want more.

No Free Trader or Far Trader is ever going to offer the levels of luxury afforded by a big liner, but off the main shipping lanes there is often no alternative but to take passage aboard a small ship. If the conditions are adequate, the crew competent and courteous, and a decent effort is made to keep the passengers happy, most will accept the situation as it is. However, every now and then someone comes aboard who is dissatisfied with everything. A week in jump with this kind of passenger is quite long enough for anyone.

Free and Far Traders are among the commonest vessels used by smugglers (smuggling is after all just a slightly different form of trade) and by pirates. The ability to look just like any other innocent trade ship is useful to those intending piracy or planning to raid a ground installation, making these ships attractive to those seeking a vessel for their operations. Pirated cargo can be taken to another market and sold as if the pirate vessel were just another trader.

However, many pirates did not set out to become such. Hard times can force a merchant crew to take desperate measures, including attacking other traders to steal their vessel. It is possible for a crew to weave back and forth over the line several times, trading when times are good and smuggling or launching pirate attacks when times are hard. Every now and then, one of these trader-pirates encounters another, usually with unpleasant consequences.

Free Traders and Far Traders can thus be encountered almost anywhere that there is money to be made. Their applications include but are not restricted to:

- Freightage and Passenger work
- Speculative trade
- Mail delivery and freightage on a regular run
- Charter as transport for an expedition or other mission
- Naval Auxiliary or resupply ship for an installation or outpost
- Personnel transport or poor man's yacht
- Salvage or rescue work
- Smuggling
- Piracy

Both of these vessels can be operated by two people – a pilot/astrogator and an engineer. However this is tiring and leaves no margin for dealing with problems. A flight crew of at least three is desirable in order to share out the load of bridge watches and routine maintenance; the third crewmember may be a gunner (if weapons are fitted) who can help out with other tasks such as standing watches or doing basic maintenance, or in many cases the pilot and astrogator are separate people.

Additional crewmembers are needed if passengers are to be carried; a two-person crew cannot look after passengers as well. A steward and a medic (who can be the same person) are needed for Mid Passage or higher, and in addition it helps to have an extra set of hands to assist when cargo needs to be loaded or unloaded. Thus the minimal crew for a Free Trader or Far Trader that intends to carry passengers is three, but most ships have one or two extra personnel.

As noted above, one or perhaps even two gunners may be carried if the ship is armed; these roles are often filled by multi-skilled personnel who can act as stewards, medics, cargo handlers or technicians at need. There is also a requirement for someone to take care of the ship's financial and legal matters. This task may be handled by the captain, or an owner-aboard, or the ship may have a designated ship's purser (who is usually also head steward).

Personnel requirements can vary from mission to mission, and of course everyone aboard imposes a cost in terms of life support and salary requirements so there is a tradeoff between a large crew and a cost-efficient one. Thus a typical Far Trader or Free Trader will carry a crew of three to six personnel, of whom at least two are specialists (pilot/astrogator or a pilot and an astrogator, plus an engineer) and the remainder are multiskilled people who fulfill the ship's other personnel requirements as needed.

The following must be included; *Pilot, Astrogator, Engineer*, plus, if passengers are carried, a *Steward* and *Medic*. In addition, the ship may also require additional *Stewards, Cargo Handlers, Technician/Deck Hands* and *Gunners* if weapons are fitted.

# REVENUE AND OVERHEADS

A Free Trader or Far Trader operator has a number of costs to meet. These include payments on the vessel, maintenance bills, crew salaries and life support costs plus any incidental expenses. In order to make a profit a vessel must generate revenue greater than this overall cost. Some costs are calculated monthly, as noted in the ship design sheet, or are paid when necessary – for example when a vessel takes on fuel.

Other costs are less frequent (such as yard bills for the annual overhaul and refit). A wise shipowner puts away money each month for this, so the maintenance cost is listed as a monthly expense. However, only about 20% of this maintenance cost is actually spent each month on spares and stores. The rest is put away to pay for a proper overhaul in a suitably equipped maintenance yard. Class A and B starports almost always have a yard, and private yards may also exist elsewhere.

For simple book-keeping, it is acceptable to just pay this cost monthly. However, there are other options for those willing to keep track of the money in a little more detail. A very cash-strapped ship might skip all but the most vital monthly maintenance (some components will break down rapidly if not replaced or maintained) and only pay 10-20% of the maintenance fee. Some captains use their maintenance fund to pay for speculative cargo, which is something of a gamble but can generate a lot more revenue than simply holding back the funds until they are needed.

Normal Maintenance requires spending 20% of the listed maintenance cost each month. The annual overhaul must still be paid for somehow.

Reduced Maintenance requires spending 10% of the listed maintenance cost each month. The annual overhaul must still be paid for somehow.

No Maintenance does not actually mean that no work is done; just that nothing is spent on parts. It is possible to spend nothing at all and basically try to keep things going using whatever spares can be scavenged or repurposed from other applications. This is not advisable, however, as eventually something important will break.

The annual overhaul costs (80% of the ship's monthly maintenance bill multiplied by twelve months) and this cost must be met by some other means if money has not been put away in the maintenance fund. If the ship has been paying 20% of its maintenance bill each month, i.e. conducting routine day-to-day maintenance as normal, then there are no extra costs and no real risks other than the possibility of not having money available when it is needed.

If routine maintenance has not been carried out then the cost of the annual refit increases by 5% per month of Reduced Maintenance – putting right the inevitable breakdowns is expensive – and by 10% for every month that no maintenance spending was done.

Most ships carry a stock of common spares and components; part of the cost of maintenance and refit is replacing and updating these items.

Thus, a Type-A Free Trader with a maintenance cost of Cr3,048 per month needs to spend Cr.605 on spares and stores each month, and will also have an annual refit costing (Cr.3048 x 12 x 80%) = Cr.29260. If the captain is short of cash one month and only spends 10% of his maintenance cost (Cr.302) then the ship has Minimal Maintenance that month. Cost of the annual refit rises by 5%, or Cr.1463, to Cr.30724 (rounding the numbers off a little). This is quite a price for the sake of saving a couple of hundred credits, but such is the nature of starship operations. Each month the annual maintenance is put off after the due date increases its cost by 20%.

## REFEREE'S NOTE

Suddenly finding that annual maintenance is going to cost far more than expected as a result of what the players thought at the time was a clever plan to save money could be a wonderful plot hook. Suddenly in need of a favour or a lot of ready cash, the crew become willing to take on jobs that they would perhaps otherwise not have gone near.

Skimping or missing maintenance can lead to problems, as can missing the annual refit. If a ship is in deficit in its maintenance schedule, the Referee should make a roll each month to determine if a breakdown occurs. If this roll indicates a breakdown then at some point in the month the Referee can impose an effect. This is best used to drive an adventure plot (e.g. forcing the crew to scavenge for parts or take a job they would not have otherwise) but a simple financial cost could be imposed. A referee who declares that the ship is destroyed or that everyone dies in a powerplant explosion might have a rebellion on his hands. This sort of thing is not really conducive to a fun game and should be avoided.

Each month, a ship that is in maintenance deficit totals its Deficit Number. If the referee rolls higher than the Deficit Number on 2D, the ship does not suffer a breakdown that month. Equal to or under the Deficit Number indicates a problem.



The Deficit Number starts at zero and is calculated as follows:

- Each month past the annual maintenance date: +1
- Each month of Minimal Maintenance since the last annual refit: +2
- Each month of No Maintenance since the last annual refit: +3
- Skill level of the most skilled engineer aboard: - skill level.

Thus a ship that is three months past its annual maintenance date and has done Minimal Maintenance for the past three months has a Deficit Number of 9+. Subtracting the engineer's skill level of 2 gives a value of 7. In the case of the Free Trader above, the overdue annual maintenance is going to be very expensive. It will cost an extra 10% per late month (3) and an extra 5% per month of Minimal Maintenance (3). Thus the final cost is going to be Cr.42427.

The plus side, if there is one, is that the captain has spent only Cr.3200 on routine maintenance in the past year, instead of a total of Cr.36576 if he had just put his Cr.3048 away each month. If he invested the Cr.33000 or so he 'saved' wisely, say in speculative trade that made a good profit, then he might come out with far more than enough to cover the overdue refit. Of course, the fact that the refit is overdue and even routine maintenance has been skimmed suggests that this might not be the case.

Crew salaries can also be deferred in order to cover a short-term financial problem. Obviously, crewmembers who have not been paid tend to become difficult after a while, so this sort of decision is always risky. However, a crew with good morale and mutual trust might be willing to defer payment in return for keeping the ship flying and thus themselves in a job. It is also possible to replace salaries with a basic living stipend and a share of the ship's profits. This is usually the case aboard family-run vessels, but sometimes a free trader gets so far into debt with her crew that they end up being part-owners of the ship. This can make command decisions difficult.

These costs and any others incurred are met out of the ship's revenue, before profit is calculated. The money can come from almost anywhere, and in the case of Free Traders the revenue stream can be very varied. Generally speaking there is more money to be made from speculative trade than normal freighting, but greater risk. Similarly, passengers are often a pain to look after but can bring in more cash per ton allocated to them than most form of cargo. It is also common for ships to be hired to complete a task, such as a supply run to an outpost or transporting a scientific expedition. As a rule, if the fee offered is very high, the job will be complex, risky, illegal or all three.

#### **The Free Trader's Overheads Include:**

- Mortgage on the ship – this can vary but for a new vessel it is Cr.137126 per month based on the discounted price for a standard design
- Crew Salaries – these vary depending on the crewing level
- Maintenance – Cr.3048 per month
- Fuel: Cr.500 per ton (refined) or Cr.100 per ton (unrefined)
- Life Support and Supplies: Cr.22000 per month

#### **The Far Trader's Overheads Include:**

- Mortgage on the ship – this can vary but for a new vessel it is Cr.192696 per month based on the discounted price for a standard design
- Crew Salaries – these vary depending on the crewing level
- Maintenance – Cr.4283 per month
- Fuel: Cr.500 per ton (refined) or Cr.100 per ton (unrefined)
- Life Support and Supplies: Cr.20600 per month

#### **Sources of Revenue Include:**

- Speculative Trade – profit varies
- Mission fees - variable
- Freight at Cr.1000 per ton carried
- Mail at Cr.25000 if licensed mail ship
- High Passengers at Cr.6000 (jump-1) or Cr.12000 (Far Trader making jump-2)
- Mid Passengers at Cr.3000 (jump-1) or Cr.6000 (Far Trader making jump-2)
- Low Passengers at Cr.1000 (jump-1) or Cr.1200 (Far Trader making jump-2)

A Free Trader making two jumps a month with a full cargo hold (88 tons, i.e. Cr.88000) and six mid passengers (Cr.18000) generates Cr.212000 per month in revenue and is thus easily capable of making a steady (if modest) profit. However, there is no guarantee of a full hold and cabins, especially in the backwaters. One way to increase revenue is to make additional runs – it is not possible to shorten time in jump but by spending minimal time in port and plotting tight jumps as close to the destination as possible a day or two can be shaved off each run.

Most starship revenue models work on the concept of two jumps per month, with the other two weeks spent in port or in normal-space transit. The extra day or two stolen off each run eventually translates to an extra chance to make revenue that month, though high-tempo operations of this sort are tiring for the crew of a small ship.

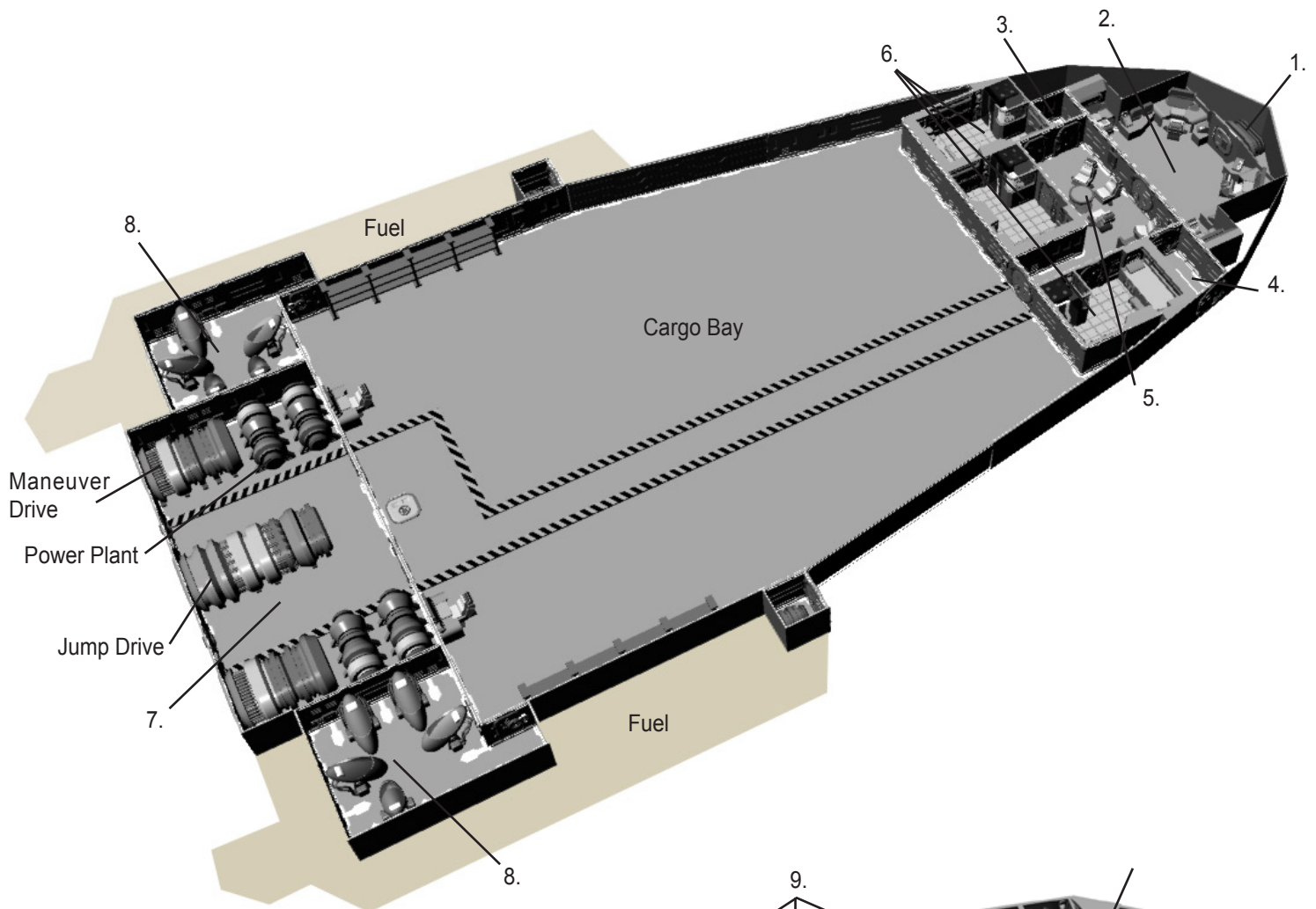
One other option is charter work. The standard rate is based on the ship's earning potential, calculated at Cr.900 per cargo ton plus Cr.2500 per passenger cabin and Cr.900 per low berth. This is payable for each 2-week block that the ship is hired for. The ship's operator must pay all costs including crew salaries, fuel and so forth.

Charter fees are based on a jump-1 capable ship and may be higher if a greater jump capability is required. If the task involves going somewhere that any ship can go (i.e. jump-1 or in-system transits only) then the fee is as normal and higher-jump ships are not really viable since they lose some cargo and passenger capacity to gain better jump range. However, for jobs requiring a more capable vessel the fee is increased. The going rate is to multiply the charter fee by the jump number required, so a charter requiring a jump-2 ship pays double the usual charter rate. This of course assumes simple transportation and delivery of goods. If the ship and her crew are required to do more (e.g. surveys, exploration, scientific work or combat) then there will be a mission fee rather than a simple charter, and the cost will be higher.

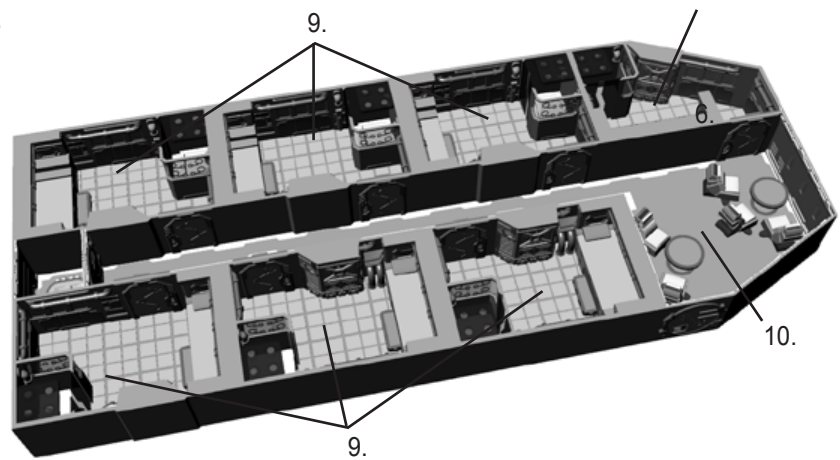
Vessels are usually chartered to produce transport for personnel or equipment, or on a long-term basis to resupply a distant expedition or outpost. The Imperial Navy sometimes charters private vessels to support small outposts rather than deploying its own auxiliary vessels. Other employers might buy a speculative cargo and charter a ship to deliver it to market, ideally making a big profit without having to own a ship of their own.

Thus standard charter fee for a Free Trader is Cr.112200 per two weeks; for a Far Trader it is only Cr.78000 for a more expensive ship. On a local charter the Far Trader actually has less to offer since it can carry less cargo and passengers, but for a charter requiring its jump-2 capability the fee would be doubled to Cr.156000 every two weeks. A Free Trader, obviously, would not be able to undertake this charter at all.

# THE TYPE-A FREE TRADER



- 1. Avionics
- 2. Bridge
- 3. Ships Locker
- 4. Air Lock
- 5. Crew Common Area
- 6. Crew Quarters
- 7. Engineering
- 8. Low Berths
- 9. Passenger's Staterooms
- 10. Passenger's Common Area



The Type-A Free Trader (sometimes also called the Beowulf-class) is built around its central cargo area, which is not-quite-rectangular to maximise available space. As with many small merchant vessels, the floor is subdivided into numerous lockdown points where a standard-sized container can be fixed in place to prevent cargo shifting. Non-standard cargoes can be locked to whatever points are nearest, but this is somewhat inefficient in terms of space usage.

The ship's entire 88 tons of cargo capacity is located in this central space. Whilst some ships have more than one hold, or have a secure locker for mail transportation, the standard Type-A does not. One fairly common modification is the installation of one or more secure cargo areas usually against the sides of the cargo area aft of the ramp/doors, which (along with fitting at least one weapon) allows the vessel to register a mail ship and secure contracts to deliver valuable small items on either a regular or as-needed basis.

Most ships have a handler robot to assist with cargo operations, or a manual lifting-and-hauling vehicle, but a set of cargo chains on swinging arms are fitted to all ships that have not had them removed for some reason. Manually manoeuvring cargo using these chains is laborious and time-consuming, even with power assistance. However, it does mean that space does not need to be devoted to a handling vehicle.

The large ramp/doors at either side of the cargo bay are a convenient means of entry and egress from the ship when it is on the ground, and are often left open when the ship is in a safe environment such as a starport. Many operators frown upon this practice as the cargo area gives access to the engineering and control sections, but even if rules are in place they are often flouted in the name of convenience.

While some ships run with their cargo area depressurized for security and economic reasons, the Type-A cannot as this area is the only connection between the engineering spaces and the rest of the ship. Cargo operations on an airless world are also inconvenient as the flight and engineering crew must either stay sealed in their respective sections or else wear a vacc suit until the cargo doors are closed and the hold re-pressurised. Where the atmosphere outside is toxic or tainted, the cargo area must be decontaminated before it is safe to move through.

Aft of the cargo area are the engineering spaces and the low berths. Up to twenty personnel can be carried in this manner, providing low-cost transportation for those that need it. Some people consider that the Type-A treats Low Passengers as cargo, since 'real people' are accommodated on the deck above, but the sort of people who can afford only Low Passage travel are not in a position to be fussy about such things.

Forward of the cargo area is the crew space. This area is separated and secured by a bulkhead penetrated by a single iris valve. The crew area contains three small cabins, a modestly-sized ship's locker containing the usual assortment of useful and less-than-useful items, and the bridge. This has workstations for a pilot (at a dedicated console) and three other personnel. The additional workstations can be used for piloting in an emergency, or can 'shadow' the pilot for training purposes. Behind the bridge is a personnel airlock which permits the flight crew to enter and leave without going through the cargo area.

The three cabins in this area are not normally used for passengers – basic shipboard security precautions include keeping passengers on the other side of a bulkhead from the control spaces. Up to six crew can be accommodated in this area, though there are no recreation, food preparation or other facilities required for daily living. Crew normally take their meals with the passengers on the upper deck, or are brought them to eat whilst on bridge watch.

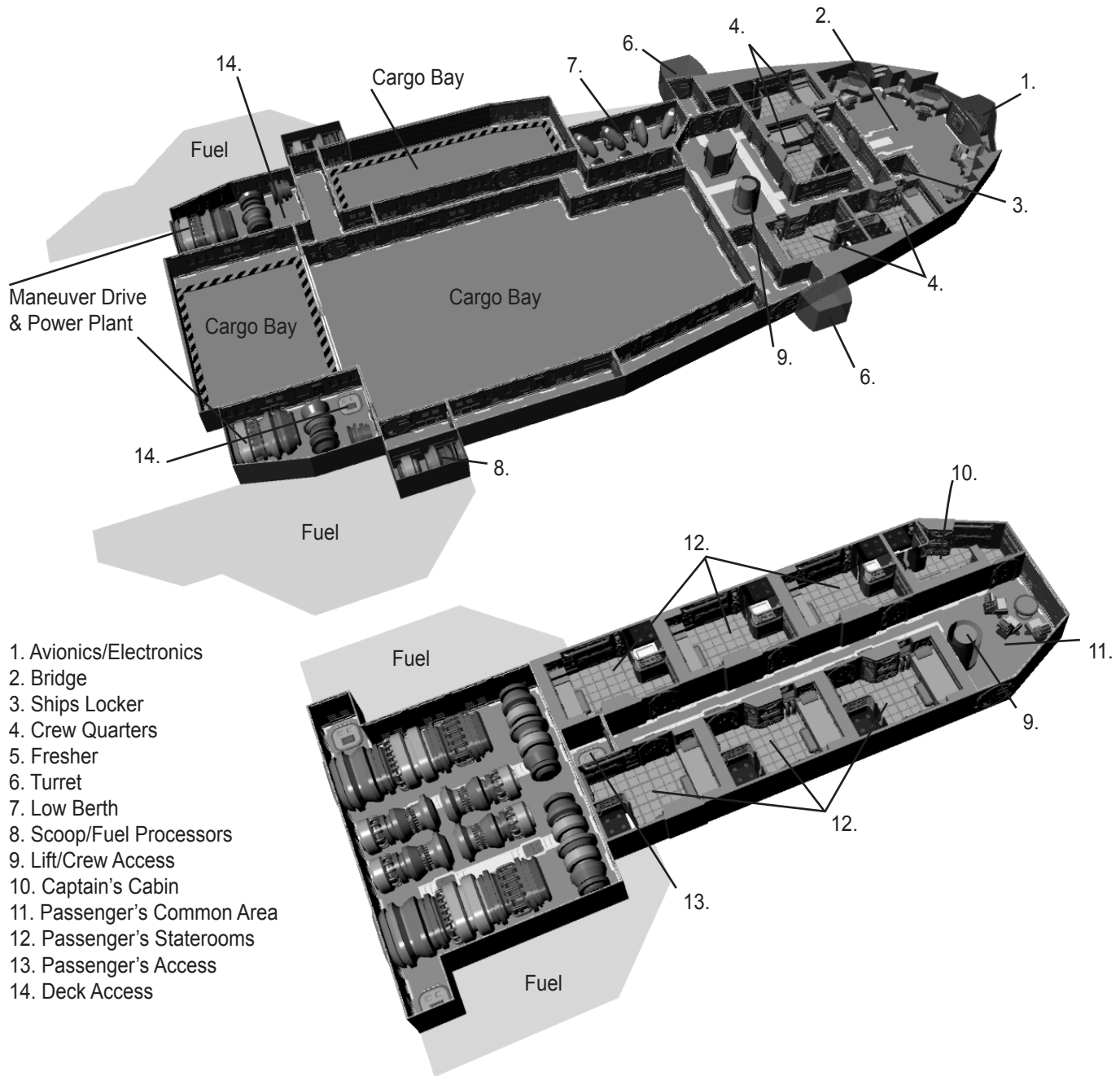
There is a single access point between the lower and upper decks; an iris valve at the rear of the cargo area. Some ships are modified by fitting a staircase here for ease of access, but this blocks off part of the cargo area. A small chamber above the iris valve is separated from the main passenger area by a bulkhead. This chamber can function as an emergency internal airlock. It usually contains rescue and firefighting equipment plus breathing masks, hull patches and the like, though this depends on how diligent the crew is about safety regulations.

The upper deck contains seven cabins (sometimes grandly called staterooms) and a common area/galley which also acts as a reception area when passengers come aboard. One of the cabins is normally allocated to the steward (or the duty steward, if there is more than one). The other six are available to carry passengers.

On some ships, some or even all of the dividing walls between cabins are removed or relocated to create one or more suites, and in other cases the steward's cabin is set up as a ship's office. This is common in vessels where few passengers are carried or where the upper deck has been reconfigured as a suite for an important (but not important enough to own a yacht) individual such as a minor noble, corporate or government official, or extremely successful trader.

Some Type-A Free Traders carry one or two turrets. This is fairly common on the frontiers and rare in the core of the Imperium. 'Self-protection whilst in the pursuit of legitimate commerce' is a perfectly good reason to mount weaponry on a starship. It is, however, cited so often as a defence after an incident that it is becoming a euphemism for shooting up another ship for spurious or outright illegal reasons.

# THE TYPE-A2 FAR TRADER



The Type A2 Far Trader, also known as the Empress or Empress Marava-class, is built around its central cargo space. However, unlike the Beowulf-class, access is from the aft of the ship via large doors that lead into a small auxiliary cargo bay. Forward of this is the main hold, which is roughly rectangular and makes good use of the available space. The aft cargo bay can function as a cargo airlock, making it possible to retain a 'shirtsleeves environment' in the main hold even whilst loading on an airless world. A secondary cargo bay is accessed via its own external doors or from the main fore/aft corridor.

The secondary cargo bay is sometimes used to stow an air/raft or other ship's vehicle, or may be used as a secure cargo area. This is often the case aboard ships which operate on a mail run – a small secure hold is a necessity for obtaining a mail license. Other vessels convert this space to an additional crew area with recreation facilities or bunks, or install banks of low berths to increase the vessel's modest existing capacity.



There are variants on the basic hull form, but the standard Type A2 operates on a principle of cargo and crew on the lower deck, passengers on the upper. This is an efficient design made even more so by the presence of a second small cargo bay forward of the transverse corridor. With inner and outer doors this bay can act as another cargo lock or all doors can be held open to allow roll-on-roll-off loading and unloading operations.

This cargo-handling efficiency comes at the price of a rather awkward engineering setup. The power system and manoeuvre drive are located on the lower deck in two small drive rooms separated by the aft cargo bay. Moving from one to the other requires going through the rear of the main cargo bay, though at least that area can be kept pressurized under most circumstances. Jump operations are even more laborious for the engineering crew, as the jump drive is located on the upper deck. The jump engineering room is separated from the passenger quarters by a heavy bulkhead, and despite its location is it often referred to as if it were part of the lower, i.e. crew and operations, deck.

Two main corridors run the length of the vessel on the crew deck, from the drive rooms to the forward crew area. These are broken into sections by iris valves and are heavily bulkheaded – attempts to enlarge the cargo bay by removing the inner bulkhead can result in serious structural weakness. These corridors also contain or give access to some of the ship's systems, including the low berths and the fuel processing equipment. A section of the starboard side corridor also acts as a personnel airlock for crew; passengers are not usually permitted on the lower deck and have their own entrance.

A pair of turrets can be fitted to the hull if desired; one accessed from each corridor. Placing the turrets on opposite sides of the hull impairs combat-efficiency, but this is not a primary concern for most operators. It is possible to angle the ship so that both can bear simultaneously, though not whilst the ship is accelerating directly away from its opponent – which is the most suitable combat manoeuvre under most circumstances.

The portside corridor leads into the main crew accommodation, consisting of three normal cabins and a slightly more luxurious one intended for the owner or captain's use. There are no eating or cooking facilities on the lower deck, so meals are normally taken with the passengers, if any are aboard. Alternatively, the secondary cargo bay can be converted if this seems desirable. A short transverse corridor links the crew accommodation to the command area, which consists of a reasonably well-equipped bridge, an unusually large ship's locker and a lift to the upper deck.

The upper deck – actually, it is officially termed the main upper deck but the jump drive room is normally considered to be an annex of the lower deck so its official title of 'secondary upper deck(engineering annex)' is rarely used – contains a passenger airlock, galley, common space and six cabins that all open off a central corridor. On ships that routinely carry passengers, one of these cabins is used by a steward or two crewmembers doubling up on accommodation. However, passengers are not all that common on many of the routes served by Far Traders, so often some of the crew move into these cabins. This is particularly true of vessels converted to other roles.

Conversions are common and varied. The Type A2 is a useful little ship with several handy spaces that can be altered to improve habitability or to carry specialist equipment, and its jump-2 capability allows it to go almost anywhere. An A2 used for exploration work might use its secondary cargo bay as a vehicle garage; one converted to salvage operations might convert the same space to carry heavy cutting equipment. However, most Type A2s are cargo ships, hauling up to 64 tons of freight or speculative trade goods plus a few passengers. Less efficient in the short-range freighting or transport role than the Type A, the A2 is more often involved in speculative trade where its higher mobility gives a greater choice of markets for any given item.

The main drawbacks with the type A2 are the complexities of operating the ship's drive and power system, and the fact that the passenger cabins and common area creates very small world to inhabit for a whole week in Jump. The crew can at least wander around the lower-deck corridors and the cargo hold, but passengers are not usually permitted to do so. The same problem, having passengers all cramped into a small space for an entire week in jump, exists in most small starships but the very small passenger area of the A2 makes it particularly problematic when some of the passengers do not get along.

Like the Type A, an A2 Far Trader requires a minimum crew of three: Pilot/Astrogator, Engineer and Steward/Medic, plus gunners if weapons are fitted. Most vessels run with a crew of at least four, with the extra person assisting in engineering. The reduction in passenger capacity imposed by carrying one or two additional crewmembers may not be felt at all most of the time – many ships cannot fill even their modest accommodation on backwater routes – and on balance the lost revenue can be offset by greater efficiency in general operations. Anyone who has seen a ship's engineer scurrying from one side of the ship and deck to deck during an emergency gains an appreciation of how much that extra pair of hands in the drive rooms is worth.

# FREE TRADER ENCOUNTERS

The following encounters are all with Free or Far Traders, but each has very different characteristics. These vessels and their crews might be encountered on the landing pad at a starport, or in passing as local colour. The characters might even travel aboard or interact directly with one of these ships.

## FREE TRADER SKIPHOP

Skiphop is a fairly typical Type-A Free Trader. The vessel has passed from hand to hand and has been re-registered under various different names since she was built about 30 years ago. Her whimsical name comes from the fact that no less than three of her owners have 'skipped' their mortgage payments and effectively stolen the ship. Each time she has been repossessed and sold at auction, until finally she came into the possession of owner-operator Kyle Vashii.

Skiphop is paid for – so this time she cannot 'skip' her payments – but is in need of a major overhaul. Her previous owners were not scrupulous about maintenance and whilst she is spaceworthy she is not in good condition. This is largely cosmetic, but several components really need replacing as soon as there is any money available. That is a bit of a problem. Kyle spent the last of his funds on refurbishing the passenger accommodation to attract revenue, and until this produces a profit he is operating on a shoestring.

Skiphop gets by with a crew of three – Kyle himself has no ship-operating skills but acts as steward, medic and purser whilst the Pilot/Astrogator role is covered by his daughter Alice. Her husband Mikloss handles engineering and cargo operations. The ship runs as a family business, with crewmembers taking a share of the (rather small) profits rather than a salary.

Skiphop sometimes bounces back and forth between the same two worlds for a few months, especially when there is decent money to be made, but mostly plies a roughly circular route around the local cluster. Kyle prefers the relatively stable income of freight-plus-passengers to speculative trade, though he will fill up his hold with whatever is cheap locally rather than shipping empty space.

Skiphop has been turning a modest profit for some months now, raising the question of whether to put her in for a partial overhaul or gamble on increasing the pot with a set of smart buy-low-sell-high trading trips. The need for replacement parts is in some cases becoming urgent, so it will not be possible to continue with the present cautious operating plan for much longer. A partial overhaul will be inefficient, but it will make the ship safe to operate for the time being. On the other hand, the

operating fund is finally big enough to make a decent profit in more risky trade which – if it pays off – will allow Kyle to refit his ship properly all in one go. Tough decisions lie ahead, and Kyle is putting off making them as long as possible.

## MAIL SHIP PANDORA

Pandora is a Type A2 Far Trader owned and operated as a private concern by Jaime Vorstaaten, a former Naval Reserve officer. Jaime's ship is elderly but in good condition, and has been converted to the mail ship role by repurposing the secondary cargo bay to carry a mail safe. This is normally accessible only from within the ship, by way of the portside corridor, but the armoured safe can be detached and dropped out of the ship. This would normally be done in order to transfer a very valuable item to a protected ground transport. Standardised mail safes can be bought or built at most starports so whilst it is uncommon to remove the safe from the transport vessel this is not unheard-of.

In addition to carrying mail, Pandora also engages in the usual freighting and passenger work undertaken by such vessels. She wanders quite widely, usually travelling along the mains for a while before hopping across to another main or cluster. The steady income produced by mail transportation enables Jaime to engage in speculative trade more than freighting. He is willing to carry goods for several jumps if he expects a good price at the eventual sale point, and is usually correct in his reading of the market. Thus Pandora is relatively prosperous as such vessels go.

Jaime does not particularly like carrying passengers, and quite often does not bother to even try to find some. Some of his crew have moved into the passenger accommodation on a permanent basis, so Pandora is only capable of taking on three or four passengers without a major reshuffle. This suits the crew; they make enough money on cargo and speculative trade that the inconvenience of looking after passengers can be dispensed with.

As a mail carrier, Pandora is required to be armed and to take security seriously. Most shipowners are at least somewhat concerned about security, but Pandora is well above average. Her two turrets contain military-surplus lasers, and Jaime is very cautious about who he hires to join his crew. In general this means ex-navy personnel or those who have worked for a reputable large shipping firm. At least some of the crew are armed (or have weapons handy) at all times except when the ship is in jump without passengers aboard.

Jaime even runs drills. This is unusual among free traders, who are notorious for their relaxed attitude towards efficiency. Drills are not common but every now and then a training exercise is held. Most are typical onboard-hazard or possible-stowaway drills, but every now and then Jaime comes up with something more complex. His crew have been 'killed' by hijackers, blown up by terrorists and lasered by pirates on numerous occasions, to the point where they are significantly more effective than the typical free trader crew and have a healthy professional paranoia about unknown situations.

Drills are usually followed by a 'deconstruction party' characterised by equal amounts of analysis and friendly abuse, in which the crew's performance is dissected. A professional requirement to improve is backed up by the fact that someone who screws up in a drill can expect to hear about it all night, over and over, until they cannot possibly make the same mistake again. Although unconventional, this training method seems to work and has allowed the crew of Pandora to reach a level where they are sometimes hired as security consultants for other vessels or small shipping lines.

## NAVAL AUXILIARY GAV-22

### JOACHIM KREISCHE

Government Auxiliary Vessel 22, also known as the Joachim Kreische after some official of times past, is a Type-A2 Far Trader bought new for the express purpose of serving as a naval auxiliary. Her owners are a minor world government with a small fleet composed mainly of light patrol vessels. These are supported by several glorified merchant ships which usually undertake simple resupply runs or act as training vessels for new recruits. The planetary navy is of nothing like the standard of the Imperial Navy, not least because of its very basic training programme. New personnel are assigned to a ship like the Joachim Kreische once they have completed their basic training, and remain as part of the crew until they qualify and move on to a berth aboard another vessel.

Joachim Kreische carries an oversized crew for a Type A2. Even so, responsibilities are doubled up. Her captain has no official shipboard duties as she is also the training officer for the recruits. The regular crew consists of a gunner, a pilot/astrogator and an engineer, all of whom are instructors as well as crewmembers. The permanent crew have cabins on the crew deck. Usually six to eight trainees are carried though sometimes a full complement of twelve will be jammed into the six upper-deck cabins. Half of the trainees will be a mix of pilot, gunner and engineer candidates; the others are non-specialists destined to be deck hands, technicians or shoreside personnel. The ship is, not surprisingly, tidy and scrupulously clean.

Joachim Kreische has been slightly modified, in that the secondary cargo bay has been converted into a training room with simulators for gunnery and other shipboard operations, and part of the main hold is partitioned off as a 'general training area' in which anything requiring physical movement has to be done. The rest of the cargo area is normally full of supplies, stores and spares when the ship is on a resupply run, which is most of the time. Occasionally the vessel is diverted to other tasks, such as commerce protection. Whilst an armed merchant ship is not much of a combat asset, it is better than nothing and sometimes the presence of a navy ship – any navy ship – is an effective deterrent. Personnel are sometimes deployed groundside to deal with some crisis or disaster, and generally acquit themselves well.

Vessels of this sort can be encountered in most ports, usually remaining within a few jumps of their home base. Huge numbers of auxiliaries are required if the navy is to keep its more glamorous warships on station. Auxiliaries are also sometimes sent to investigate vague reports and rumours, since they generally cost less to operate than warships and can move around a lot more without political or strategic ramifications.