

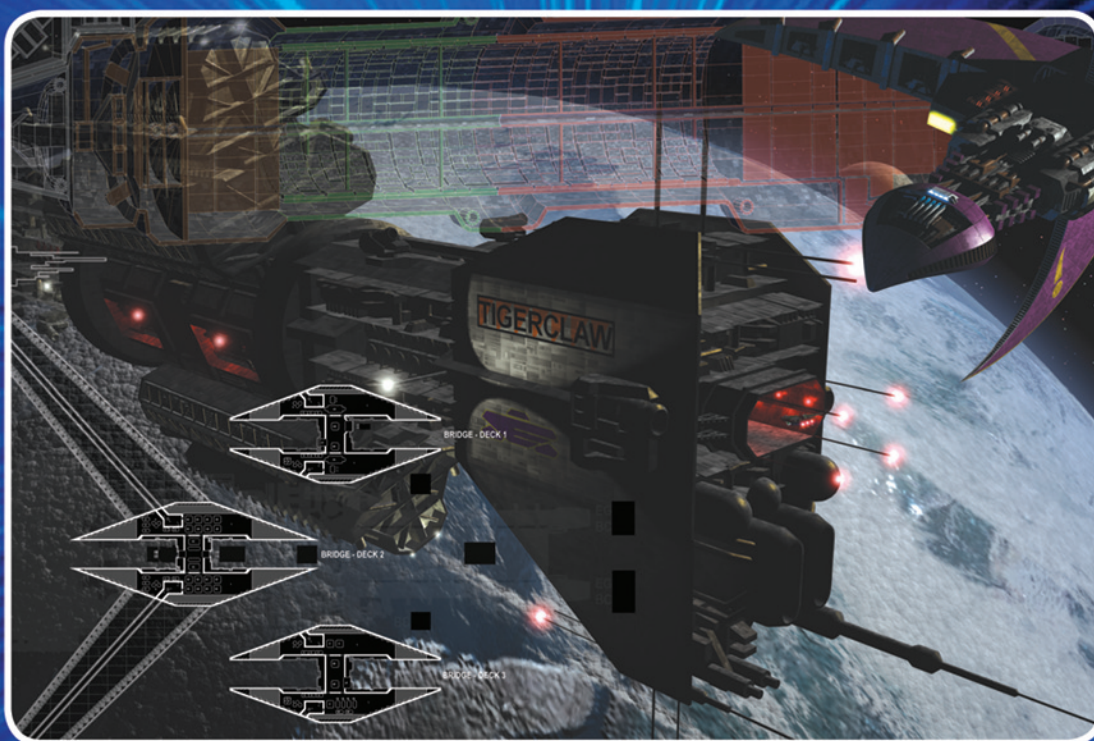
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# The Roleplaying Game

## Second Edition



# Ship Builder's Manual

Written By Bryan Steele

Babylon 5 created by J. Michael Straczynski



# SHIP BUILDER'S MANUAL

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# INTRODUCTION

**If you have the need, the time and the credits... we can build it.**

**- Chief Engineer Malcolm Whithers, Proxima Public Shipyards**

The *Babylon 5* television series saw dozens of different starships that soared, sailed, barrelled and blasted their way across our television screens time and time again. As fans of the series, there was always a part of us that wanted to be at the helm in one of those crimson-lit G'Quan heavy cruisers, or flipping J-turns in a Starfury – which is just one of the many reasons why the *Babylon 5 Roleplaying Game* was created.

Space travel and starships are a huge part of the *Babylon 5* universe and almost every chronicle will no doubt run into the use of them in some way. Roleplaying evolution states that eventually the players will get tired of seeing the same thing over and over and when they have had enough of the same old ships inevitably players and Games Masters alike will soon look into creating vessels of their own.

That is what this book is for – to help you create your very own *Babylon 5* starships. From installing the weapons from an old hulk to funding the design and creation of unique hulls, *Babylon 5* players can use the information in this text to build anything.

There is a host of information contained in this book concerning the design, building, altering and retrofitting of ships of all shapes, sizes and varieties. Using the rules found here players can go about adding bigger engines and external cameras to their commercial freighters, or maybe finding room for that rare antimatter torpedo launcher!

Anything is possible if you have the space, time and – of course – credits.

## Everything in its Place

Most of this book is dedicated to the actual creation of ships from scratch, from the basic hull chassis all the way up to the finished product sailing through the starscape, but there are some guidelines and steps that have to be followed. So long as they are followed, in order, to the best of the player or Games

Master's ability, the final product should be a fantastic spaceship capable of exactly what the designer intended it to do – and what the money was able to buy.

### Step One – Where to Build?

This first stage in the building of your own vessel can be the penultimate decision in the whole process. There are dozens if not hundreds of spacedocks, shipyards and production facilities throughout the galaxy. Some are private sites owned by powerful megacorporations, others are governmentally facilitated and still others are used only by military manufacturers.

Costs vary from site to site, as does the level of resources available and degree of skill the designing crew (if they are to be used). These are all factors that come into play when choosing the birthplace of your ship. A yard that is too expensive might eliminate the possibility of adding those special features you were looking for, while one that is too cheap will rarely have everything you require. Everything depends on what you are willing to spend or sacrifice.

Government or military yards require special clearance to even come onto their grounds, let alone use their facilities to build your own starship. Ship builders should know that these sites are amazing, lacking in nothing pertaining to the creation of a ship – except an invitation. It takes a special circumstance or a great deal of influence in that galactic government in order to arrange for even a single visit to these places, let alone the weeks or sometimes months it takes to put together a starship.

### Step Two – What to Build?

Having figured out where to begin the process, you must now choose exactly *what* you are going to build. Is it a fighter? A freighter? A fast and sleek courier ship, or perhaps a massive war dreadnought? Will it carry civilian-grade weaponry, or will you shell out black market prices for a stronger offence?

Choosing the design of your ship is not just as simple as looking at your budget and picking things out of a resource catalogue. Building a fighter or light shuttle will do you no good if you do not have some larger ship or other method to carry it. Building a massive warship will seem very foolish if you have no crew to man it. A hyperspace courier ship will do you just fine if you have an assortment of jump gate beacons and the transfer codes to use them.

Every ship design can be as unique as you can afford, or what the hull can manage to hold. Your shopping list could include jump engines, artificial gravity or even something as simple as tachyon communication arrays.



## Introduction



### Step Three – Who Will Design It?

Anyone can make an ashtray out of a lump of wet clay, but only an artist can make a true work of art. By sculpting that same piece of clay into something beyond the original imagination, the artist turns the resource into something fantastic. The same is said for ship design. Anyone that has been schooled can point out where the systems go and where to weld down the power couplings, but true masters can mould a bare hull into a weapon-laden warship beautiful and elegant to behold. It took teams of worker caste designers years to envision the White Star, in which they managed to create one of the most powerful and deadly spacecraft the galaxy had seen in centuries.

Such skill rarely comes cheaply. Unless you are a skilled ship designer in your own right, probably with a team of design assistants to help you refine your plans – you will probably seek out a professional. The designing of a new starship can cost hundreds of thousands of credits alone depending on the designer being tapped for his abilities, so once again the efficiency of your vessel depends mainly on your willingness to find and pay for the best.

### Step Four – Make Sure It Covers the Basics

In the eagerness to get your craft into the sky, riding fire and soaring through the stars, it is easy to forget some of the basics necessary to the ship you want. If it is going to be flying alone, without much in the way of escort, it would be sacrosanct to have decent communications. If long distance is the way to go, heavy atmospheric processors and commendable cargo space are a must. A hyperspace loner? Jump engines with failsafe triggers are always needed.

These essential basics, in addition to proper mainstay systems, are what can mean the life and death of the ship and its crew once they have left the docks and are making their maiden voyage.

### Step Five – Just How Battle Ready Will It Be?

Once the hull is on its way and framework coming together nicely, the question will come as to what sort of weaponry

will you want on it – if any. This can be a real deal maker or breaker for some yards. Just try and tell a Drazai you are making an unarmed shuttle, or explain to the Abbai craftswomen why you want three heavy laser turrets on a cargo hauler. Once past the immediate issues – everyone has their price, after all – you can go about adding some firepower to your vessel.

The choice becomes how much do you want to put onto your ship, knowing that a simple scan will detect most weapon systems, possibly labelling your ship as a threat, target or somewhere in between. Too many guns on too small a ship and it will put everyone it meets on the defensive. Too few and raiders will no doubt crawl out of the woodwork to take a shot at it just because it is an easy target.

The other factor is exactly what manner of weapons you use. Standard particle arrays or salvaged bolters from the Dilgar War? Many races frown on the use of high-radiation lasers, while others might use them as standard.

Choose what you can use most efficiently, because sometimes just having the weapons is enough to attract trouble.

### Step Six – Register Your Vessel

Once it is finished to the specifications you wanted (or could afford), your ship should be ready to be moved out to launch range from wherever you had it put together, but you are not quite done yet. You want to make sure that your ship has been tagged and registered with the local governing body, and is boldly advertised by your hyperspace beaconing or communications equipment.

Unregistered vessels are often seen as raiders, trespassers and overall problems in nearly any civilised galactic government. It can cause major problems with some space monitoring societies or patrolling craft, and many space stations and transfer points will not admit an unregistered ship (short of bribery to do so).

Your registry does not even have to show anything about the ship's inner workings, its cargo, its destination or even its classification. All it needs to do is name the vessel and tie it to some original system or location to trace the vessel if need be. The cost of these registry codes are almost always included in a good ship builder's fees, so it is a simple endeavour to follow this ideal – unless you *want* your ship to stay anonymous.

### Step Seven – Choose Your Maiden Voyage Carefully

The ship is done, you are fully registered with whatever governing body you have chosen (if any) and you are ready to fire up the engines and get out into the spacelanes. Where you first take your brand new vessel is up to you, but there are a few things to bear in mind before plugging in your first course beacon.



## Maiden Voyage of the *Clear Air Turbulence*

### September 4<sup>th</sup>, 2257; Ship's Captain Holibbrook, reporting

Well, this old Kutai hull has been working rather well for our needs since we cast off from the Bentat Staryard. Very few problems to report. A little shaky on the uptake, stabilisers reacting poorly to the transition from hyperspace to realspace. I think all she needs is a little tweak here and there and we will be very happy.

### September 11<sup>th</sup>, 2257; Ship's Captain Holibbrook

We have run into our third wing of raiders this week and the *Clear Air Turbulence* has been holding up rather well to their pin-prick particle guns, but we do not have the firepower to put a dent in them at all. We got one this morning by accident because it dodged up into a piece of flotsam. If I have one suggestion, we need to invest in some point defence interceptors.

### September 13<sup>th</sup>, 2257; Ship's Mate Kraiklyn

We need to be heading back to Bentat now, as we found a major issue with the atmospherics in this tub. It kept bleeding air every time we span that dorsal turret, so it's looking like things might get a little tight before we get back. We told the captain, but he seems to think that we will be fine. Talking to Xim, we aren't so sure.

### September 14<sup>th</sup>, 2257; Ship's Captain Holibbrook

My first mate and his second lieutenant claim that the ship is not going to make it back after the full two weeks, but I explained to them otherwise. I caught a little flack from them, but after docking them a day's salary each and putting them on weapons details for the rest of the night they fell back in line. The ship needs a little more firepower, but I think she will be fine for our needs.

### September 15<sup>th</sup>, 2257; Ship's Captain Kraiklyn, final report before docking

Well, after an untimely malfunction with one of the portside airlocks, I have assumed command of the *Clear Air Turbulence*, making Xim my first mate. We are making a fast track back to Bentat right now to get this little atmospheric bleeding problem taken care of and to find a new source of funding for these retrofits.

Go short. A quick spin around the area for a fighter or shuttle, a planet or system for larger craft, or maybe even a quick hyperspace jaunt for a truly immense vessels built for that manner of trip. If there is going to be a problem due to construction, chances are very good that it will happen in the maiden voyage – so you do not want to be too far from your place of origin when it happens.

Hire a suitable escort. Should there actually be a problem, you may not have much time to get the ship back for repairs. Having a passenger liner to pick up survivors or a tow-capable freighter to haul back the faulty ship has saved countless lives in the past, and will no doubt continue to do so.

Test weapons as soon as possible.  
Weapon systems can be the most

draining on power systems, and can sometimes shut down prematurely if they are not coupled correctly or adequately. On the maiden voyage, your ship should find some stellar debris away from other vessels that might consider your firing a threat, and test its various weapon systems on asteroids, space junk and the like. It does not have to be a spectacular show, but it is better to know if there is a problem early rather than when raiders come calling.

Do not push your luck. When taking the maiden voyage, use the ship for what it was designed for. Do not worry about pushing it to the next level. A well-built ship can handle more than you often need it to, but pushing it so hard immediately off the assembly line could spell disaster. It is better to make sure it works within parameters before trying to push past them.

## Introduction



## Notes on the Designing and Building of Ships in the Babylon 5 Universe

While this book arms you with the options and abilities to create a fleet of massively unique vessels that have been tailored to be exactly what you want them to be, the *Babylon 5* genre really does not view shipbuilding in such a manner. There are hundreds of existing hull frames from the dozens of galactic governments and species out in the void, and most people simply modify one of those to create their individual vessels.

This is, of course, not to say that we do not want our players to come up with their own interesting hulls and ships for their chronicles. As we saw in the 'A View From the Gallery' episode, when the infamous 'Redhelms' attacked, or in the television movie 'Thirdspace' where the sinister First One aliens came through the gate to attack B5; there is always room for a new threat or avenue of development in the game.

There are some intrinsic realities to keep in mind when designing your own, brand new hulls for your game:

**Expense:** Building a ship is never cheap. In fact, it often comes at monumental expenses that would boggle the mind of a common *Babylon 5* universe-goer. We are talking millions – sometimes *billions* – of credits for just the prototype vessel. Without a corporate or governmental sponsor to absorb that cost, common Player Characters have no real chance of funding such an endeavour.

**Uniqueness:** The more unlike your ship is to any other in the galaxy the more attention it will get when you pull into a spaceport or station docking ring. A few alternate weapon systems here and there should only raise eyebrows on the starship connoisseurs, while a brand new hull chassis bristling with shining new technologies will amaze every pilot, dockworker and raider within three transfers. Take care if you build a ship unlike any other, because it may just make you far more popular than you want to be.

**Black Market Parts:** Buying items off the Black Market to build your starship can make for a very powerful vessel, but can also stamp it as an illegal craft. Using a handful of salvaged fusion cannons from the Earth-Minbari War might make for a very deadly light combat vessel, but the first time one of their kind spies them – chances are very good that you will be harassed, or worse. There is also an inherent danger in using parts that may or may not be functional, as most black marketers rarely give a guarantee on their wares. Using the spoils of shady dealings can be dangerous to your craft and your reputation.

**Efficiency:** This may sound strange, but if a ship is *too* good it will often be targeted by governments to be purchased for their own reverse-engineering and production. If the owner

will not or cannot sell the ship, there are many less scrupulous governments that might go as far as to steal the ship instead.

### Using This Book

Quite obviously this book is primarily designed for players to walk through, step by step, the building process of putting their own ships and ship variants together. It has a great deal of peripheral information that can be used to flesh out certain areas of the galaxy and some existing locales a little better. With the rules and tables found in these pages, anyone can put together the ship they want to.

That is not all, however, as the information could easily be used to create a fully flowing campaign based around the shipbuilding industry, entire player groups could be sucked into such plots. No different than any other industry, the docking unions and shipbuilders associations can be a fantastic source for politics, tension and intrigue.

A group of freelance shipbuilders could be hired by either the Narn or the Centauri during their bloody war, trying to stay neutral in their business even though they are constantly being assaulted by the other side. Or rather they could take a bit of bloody revenge for past crimes by sabotaging the vessels they are making, hoping the enemy will make use of the crippling deficiency.

A particularly masterful designer may need to train assistants, or hire muscle to protect him during a long contract. Maybe the designer is actually a double agent for the enemies of his client, making a substandard product just to ensure his employers' victories. It could be a very lucrative business, but one where the mistakes the player makes will haunt him forever.

This book also offers an opportunity to the worker class characters out there that rarely get the opportunity to really shine in some games like soldiers or telepaths often do. A game session or two based around the inner workings of the shipyard and the characters can be an exciting venture into a whole new world. While a worker may not be the bravest soul in a PPG crossfire, they can find their own brand of courage when the construction scaffolding buckles, the atmospheric tent rips or any of a thousand other worksite-related problems occur. Workers are heroes too, just not always in the same fashion as those we are used to seeing.

Basically this book gives *Babylon 5* fans a resource to use surrounding the shipbuilding industry, from start to finish and beyond. We hope that everyone finds something to cling to inside these pages. From knowing where to go for the best ship refits in the Earth Alliance to what type of training it takes to work in a shipyard.

Space is a very large expanse but from the bridge of your new starship, it may not be quite as large as it once was.



# SHIPBUILDING IN BABYLON 5

**If we have an order to fill, you'd best be damned sure we will fill it. Because if we don't... someone else will.**

**- Terrance Wu, CEO of Foxden Industrial Works**

## SHIPYARDS, SPACEDOCKS AND PRIVATE PROJECTS

In the 23<sup>rd</sup> Century space has become a great deal more than just the expanse of stars between colonised planets. It is made up of highways and back roads, battlegrounds and memorials, and even more than a few temples and shrines. At any given moment there are tens of thousands of starships carrying hundreds of thousands of crew and passengers sailing on the black curtain of the starscape from place to place. The great void is now the most populated terrain anywhere.

Considering there is not a known life form in the galaxy that can simply swim from one planet to the next in space, there will always be a need for starships. This, in turn, creates a never-ending need for starship designers, builders and production facilities. It is one of the single most expensive, time consuming and *lucrative* businesses in the entire galaxy. Everyone who wants to go among the stars needs a ship and there are hundreds, if not thousands, of businesses willing to sell, steal or build one for them!

Due to the overwhelming need for them, there is a multitude of varying types of shipbuilding facilities to be found throughout the galaxy. From space stations that have attached docking areas to dedicated frameworks floating in the void, there cannot be a true definition of what makes one better than the others. Each type – shipyards, spacedocks and the rare private affairs – has its own strengths and weaknesses.

In this chapter we want to show the differences between these shipbuilding facilities, give a few good examples of where they can be found in

the galaxy and when, and even drop a few names of those who prospective purchasers may wish to look up when they are ready to invest in a new starship.

## SHIPYARDS

The most common type of shipbuilding facility, 'shipyard' is the catchall term for a large enough facility to build multi-passenger/crew vessels capable of traversing space for an extended period of time. Some planetside shipyards can only produce shuttles and wayfaring craft capable of escaping the atmosphere, others might be orbiting stations that utilise hundreds of maintenance bots to build truly immense vessels that boggle the imagination.

While things might be different from one shipyard to the next, each one has its own feel and distinct regulations. Unless they are owned and operated by the same individual company, person or government (which does occur) they each have their own *feel* to the traders, builders, buyers and employees walking the halls in these large industrial complexes.

Every shipyard, from the Bentat military yards to the Norsa Communal Engineering Guild, has three main points in common:

*Large Scale Employment:* Shipyards rarely hire freelancers to perform their business' duties. They commonly have extensive staffs that are based from the facility itself, building whatever their employers require of them for a constant wage. This means the shipyard can happily take on governmental or military contracts at any time without fear of sabotage or corporate influence from outsiders when the vessels themselves are being put together. It also requires extensive background checks and constant supervision, security and legal recourse to be at the employers' fingertips in case there is a disgruntled employee or some kind of client information leak.

Larger shipyards tend to be the focus for employment possibilities – from welders and electricians to ferry transporters and simple spit-n-polish detailers – for the entire planet or even system. They are often the primary reason why outsiders come to their part of the galaxy, and therefore harness a great deal of influence from the local power bases.

*High Profile:* Shipyards make their profits by being accessible to outside clients, so many of them are loudly advertised in some way. Electronic tachyon transmissions that ring out from dozens of comms arrays around the system, plastic flyers posted all over transfer points and trade stations, and even





ISN ads for their news shows and Universe Today; such are the ways that a shipyard that is open to the public will try to drum up business.

Not all shipyards require such measures, as they are constantly being used by one company or government on retainer, crafting as many of the crafts they require for a constant wage paid to the shipyard. Even these single-contract shipyards still wish to be known for their work, so blatant advertising for the products themselves give way to public reports on productivity and design success.

*High Production Rate:* Shipyards, even those designed in space to build gigantic capital ships, must have the facilities to work on several projects at once. With the high expectations of clients, they will sometimes need to work on several craft at once – possibly from the same order. This increased rate of building means that finite detail might be easily overlooked, but larger orders are far easier filled.

This higher rate also means that the workers employed by the shipyard rarely see moments where there is nothing to be done. When one ship is being towed out for testing, another is probably taking its place. Workers must be ready to change

gears on the fly, as new schematics might pop up onto their production monitors, and a single error deviating from the plan could mean a multi-million credit loss, many more hours of retrofitting the mistake, or even a life-threatening catastrophe once the vessel is sent out on its maiden voyage.

Keeping up with these rates can be daunting, but any good shipyard will gladly hire more hands and technicians if it means a percentage point higher in the profits of the company at the end of the day.

## GENERIC SHIPYARD USAGE

Anyone with the proper amount of credits and influence can hire a shipyard to produce vessels for them. This can be as easy as walking in the main office and filling out a retainer form, or as difficult as getting military clearance to even come onto the shipyard grounds. While it is understood that each shipyard is different, there are some patterns that are nearly all the same.

Players will occasionally throw a campaign's progression off by choosing to go one way instead of another, or make a major decision – like having a starship built – that Games Masters may not be ready to undertake. To help Games Masters placed in this position, or those who wish to produce their own shipyards for their campaigns, the following table (and explanations thereafter) contains guidelines for how an average shipyard should operate. As always, Games Masters can alter or ignore this table however they see fit for their own game.

*Maximum Vessel Size:* This category lists the largest possible spacecraft the shipyard can create due to limitations of its placement, resources, schedule or any number of other factors decided by the Games Master. Any shipyard can choose

### Shipyards Average Values

Maximum Vessel Size	Cost for Production	Influence Check Required	Waiting Period	Acquisition Percentage	Planetside or Orbital
Fine	1d3 x 500 cr.	DC 8	1d2 days	5%	Planetside <sup>2</sup>
Diminutive	1d3 x 1,000 cr.	DC 10	1d4 days	20%	Planetside
Tiny	1d6+1 x 1,000 cr.	DC 12	2d6 days	30%	Both
Small	2d6+1 x 1,000 cr.	DC 15	1d4 weeks	40%	Both
Medium	1d6 x 10,000 cr.	DC 20	2d6 weeks	50%	Both
Large	2d6 +1 x 10,000 cr.	DC 25	1d4 months	60%	Orbital
Huge	2d8+2 x 10,000 cr.	DC 30	2d6 months	70%	Orbital
Gargantuan	1d3 x 100,000 cr.	DC 35	3d8 months	80%	Orbital
Colossal <sup>1</sup>	N/A	N/A	N/A	N/A	N/A

<sup>1</sup> Colossal spacecraft are far too large for even the largest shipyard, requiring a framework spacedock to be crafted properly.

<sup>2</sup> Any orbital capable of building larger than Fine craft can arrange for the planetside building of Fine-sized craft if truly





to build a smaller craft if the purchaser requests it, but the rest of the shipyard information remains the same for its Maximum Size allowance – an enormous shipyard capable of building Omega destroyers is going to charge you a great deal for wasting their time if you are making them build light fighters!

**Cost for Production:** Every shipyard will associate a particular cost to the project they are assigned. Depending on the size of the structure, the shipyard will charge a usage fee for their time, work and facilities. This amount should be charged per ship built, with a cumulative –10% for each vessel built beyond the first on the same order, up to a maximum of –50%.

*For Example: If the Earth Alliance wants a Huge-capable shipyard to build three new Hyperions, rolling a '5' on the dice after modifier, the first vessel will cost 50,000. The second would be 45,000 and the third would be 40,000. This is, of course in addition to the actual cost of the starship itself.*

**Influence Check Required:** Gaining the contractual usage of a shipyard and its employees is not always a simple task, meaning that sometimes palms must be greased and strings pulled to get a purchaser's name on the waiting list. The Difficulty Class on the Shipyard Average Values table is what the purchasing character/company/government

must achieve with a related Influence check. If the roll succeeds (sometimes automatically, if the numbers are high enough) the purchaser is placed in the queue to begin the building process. If it fails, the shipyard is simply too busy to take on any more orders for 2d6 weeks.

**Waiting Period:** Once admitted to the queue and the starship design has been approved by the yard foremen, the purchaser can expect to wait a certain amount of time while the resources are gathered, space made available and the design tested in virtual simulations. The amount of time listed in this category is the number of days or months that the shipyard will wait before actually *starting* the construction process as detailed in the next chapter. Purchasers can cancel their build at any time during this waiting period, but will suffer a 50% loss to their pre-paid costs.

**Acquisition Percentage:** Not all starships are built the same. Many have military-grade weaponry or sensitive jamming equipment that otherwise would be illegal in most systems. These are noted as 'restricted' items throughout the relevant sections of this book. These restricted items will only be available some of the time at certain locations, and the percentage listed here can be rolled to determine if a given shipyard does in fact have access to the requested item(s) at the time the purchaser requests them.



*Planetside or Orbital:* This column is a simple description as to whether or not the shipyard in question could be found on a planet or moon, or if only available as an orbiting flotilla (or part of a larger station). A column listing of 'Both' means that a shipyard of such a size could be built in either position without hindrance. Many are often built in orbit due to the fact that the ships they construct – or tend to construct – most likely could not manage enough thrust to break a planet or moon's gravitic pull.

## EXAMPLES OF GALACTIC SHIPYARDS

The following are a few good examples of pre-designed shipyards for use in the *Babylon 5* universe. Each entry contains all the information necessary to include it in any campaign, including the information needed in order to actually use the shipyard for building a vessel. Games Masters can use them as is, or tailor them to better fit their own campaigns by adjusting values, names or even galactic placement.

### Bentat Military Yard, Centauri Republic

**Location:** Bentat III.I (moon)  
**Years in Service:** 2220-2268, 2280+  
**Maximum Vessel Production Size:** Huge  
**Production Cost:** 100,000 cr. (10,000 for House Durnado Centauri)  
**Influence Check Required:** DC 35 (DC 10 for House Durnado Centauri)  
**Waiting Period:** 6 months (1 month for House Durnado Centauri)  
**Acquisition Percentage:** 75%  
**Most Common Client:** Centauri Republic Naval Requisitions

Revolving around the barren singular moon over Bentat III, a lush tropical resort for the Centauri, is one of their most esteemed and prolific semi-public shipbuilding facilities anywhere in the Republic. Originally designed to use the bountiful resources below to fund the facility, the Centaurum chose instead to take on outside contracts when possible. Not only did this increase the Republic's knowledge of other races' starships which came through their facility, but it also allowed them to leave the veritable paradise of Bentat III unmolested as a tourist attraction and vacation site for rich nobles.

Based on the cylindrical hull of the old Golian warbases the Centauri once clashed with, Bentat Yard (as it is commonly known) is surrounded by over a dozen small docking domes that can be scaled up or down to include some of the larger ships the yard will build. Vorchan and Demos attack cruisers seem to erupt constantly from these widespread birthing

docks, many staying in local patrols until the call to battle is sounded.

The noble House Durnado owns the shipyard, controlling the level of resources and assets that it reports back to the Centaurum. Their House (designers and fundraisers for a great number of the prototype starship designs that are now standard in the Royal Navy) was granted the station as a reward for their service to Emperor Turhan in 2249. Managed and organised by Maxinari Saffir Durnado, a decorated war veteran from several border engagements and more recently from the Narn-Centauri War, his work detail is hardly a regular job for most of his 'employees'.

By using a collection of lowborn peasants looking to rise in social standing and captured slaves – many hundred Narn were *employed* here during 2259-2261, some of which were never freed – Saffir keeps his overhead remarkably low and sends amazing profits to Centauri Prime every quarter. Rumours of his forced labour in sixteen-hour shifts enforced with threats of the agony whip bellowed over loud speakers have reached more than a few rival Houses, but nothing as of yet has been done about this horrible treatment. Slavery is not illegal in the Republic, and even the once-proud Narns are afraid to speak out against their heavy-handed *owners*.

Specialising in larger, military-styled spacecraft, the Bentat Yard has almost unlimited access to Centauri weaponry and additional systems. Saffir believes that if he hides his facility's true stockpile, he is less likely to attract raiders, con men or the meddling Interstellar Alliance patrols. The arms trade is not illegal in Republic space, but the ISA can step in and monitor any transaction involving one of their member worlds. After the ISA debacle in 2262, when the Narn and the Drazi orbital bombed Centauri Prime, there has been some great degree of animosity between the two governmental agencies.

The yard itself is rarely without a full complement of Centauri noble guards, Sentri fighter patrols and a trio of nearby defence satellites. While not actually fully run by the military, it has the full support of the Fleet and the Centaurum will take great measures to protect it from outside hazards.

Up until 2264, the Emperor's Drakh masters chose to order the shipyard off limits from any but specifically chosen Centauri personnel, i.e. those controlled by the Drakh, or the Drakh themselves. The shipyard was refitted with newer technologies capable of creating the silicon coating of Drakh ships and went to the task of rebuilding a massive fleet. Even though House Durnado protested this utter abuse of their resources, the Emperor (or rather his Keeper) merely had Maxinari Saffir executed for treasonous behaviour and placed the now-private shipyard completely in the hands of Drakh servitors.



By 2266, when the Drakh were ready to strike at Earth, Bentat Yard was little more than a hulk. It had been so used and abused without major repairs that it was literally falling apart at the seams. The creation of hundreds of Drakh ships had taken its toll. Even though the shipyard was still operational, it would take a great deal of care and money to bring it back to its former glory. It was a point of great sorrow and anger in the hearts of many Centauri not under the Drakh influence.

When their masters' attack on Earth failed and they returned to Republic space to begin again their fleet-building at the old shipyard, a secret group of anti-Drakh loyalists – Vir Cotto amongst them – detonated the shipyard, killing hundreds of Drakh and their servitors. It was one of the first 'terrorist' activities that eventually led to the Drakh War and their removal from power.

Later, when Vir became Emperor, he took full responsibility for the bombings and asked his people for forgiveness by commissioning the rebuilding the Bentat Yard, bigger and better than before. He was adored by the people for this strangely honest and heartfelt action, and it was easily one of his first steps toward being among the most successful Emperors the Republic had ever known.

## Spacer's Guild Construction Facility Beta

**Location:** Denizala II

**Years in Service:** 2121+

**Maximum Vessel Production Size:** Gargantuan

**Production Cost:** 180,000 cr. (no charge for Spacer's Guild ships)

**Influence Check Required:** None

**Waiting Period:** 8 months (2 weeks for Spacer's Guild orders)

**Acquisition Percentage:** 95%

**Most Common Client:** League of Non-Aligned Worlds' assorted navies

When it comes to the plying of the space lanes, there are very few forces more widespread and influential than the Vree Conglomerate and their Spacer's Guild. Their tell-tale saucers can be found dancing around nearly any port of call, transfer point and trade station. It is said that there are dozens of production facilities on and around Vreetan that build their vessels in secret, keeping their specialised technology safely away from prying eyes. Even if this is true, it is not the Vree's only outlet for ship manufacture.

Whirling in tight orbit above the mineral-rich but lifeless rock at the edge of Conglomerate space named Denizala II is the single largest starship

production facility in ten transfers. Named by the Vree as the Spacer's Guild Construction Facility Beta, it is one of the oldest shipyards still in perfect running condition anywhere in the galaxy.

'Spacer's Beta' as it is nicknamed, is constructed as two massive floating discs connected at the centre by a central core containing business offices, hotels, shops and the largest gravitic gyro the Vree have ever made. It keeps the tilt level and spin of the shipyard constant, and powers the protective fields around many of the shipyard's defence turrets and patrol hangars. It is a marvel of technology that has baffled many scientists across the galaxy, and no doubt attracts many of its clients who hope to see it functioning – perhaps to gain some insight as to how it works.

The massive shipyard is run, unsurprisingly, by a committee of ex-captains from the Vree Spacer's Guild. Having retired due to injury, age or even curiosity toward a new field, the Management Committee makes all of the shipyard-wide decisions in their eerily silent telepathic board meetings. While the entire shipyard was crewed by Vree for many decades, the sudden increase in ship production in the early 2240s during the aftermath of the Dilgar War forced the Spacer's Guild to hire dozens of cheap workers that could do the manual labour for the small-framed Vree. The dozens of Praxisians, Grome and Gaim quickly turned into hundreds and now the only Vree who work in the actual yards are the technicians and foremen.

Through its constant crew of a hundred maintenance bots driven by Vree technicians, combined with the dim-witted but strong-backed labourers, Spacer's Beta is responsible for crafting tens of thousands of League of Non-Aligned Worlds' vessels. With ironclad contracts and access to some of the most rare and restricted components due to research deals with dozens of worlds, the Spacer's Guild has an almost never-ending stream of profit from the facility.

Primarily selling its services to the lesser League races that most likely do not have starship building facilities of this calibre, Spacer's Beta has seen the likes of nearly every League vessel in one fashion or another since it has been open. This gives the Vree a comprehensive and extensive collection of facts about the ships of their neighbours. Meaning that they have files on the strengths, weaknesses and capabilities of over a dozen.

Each and every shipbuilding contract they take on is sealed, ratified and monitored by a team of five well-paid Brakiri lawyers. Since the Brakiri have many of their own shipyards and spacedocks in order to craft their own ships, the Vree do not see any problem in using the Syndicracy for what it is good for.



### First Autocratic Shipyard of the Grome

**Location:** Gromahk III  
**Years in Service:** 2218+  
**Maximum Vessel Production Size:** Gargantuan  
**Production Cost:** 150,000 cr.  
**Influence Check Required:** DC 20  
**Waiting Period:** 3 months  
**Acquisition Percentage:** 5%  
**Most Common Client:** Pak'ma'ra Unified Defence Fleet

The Grome, never a race to pass up a good idea for advancing their own people, saw space travel as an avenue to better their situation on the backs of their forefathers. Long ago, when they were visited by the Lumati who explained that there were *hundreds* of other species out there to be reached – the Grome devoted a massive number of technological revolutions and scientific coups to their space program. To their credit, they went from argumentative self-helpers on the ground to argumentative self-helpers in space in record time. The Grome are nothing if not persistent.

It was this unexpected lust for space travel that soon led them to build larger and larger spacecraft, allowing them to put more and more of their people in space. Eventually, through a horrible string of tragic circumstances of trial and error, they discovered that their ships were too large to build planetside. Teaching themselves how to put a shipyard in orbit, they were soon strapping together duraplate behemoths at the First Autocratic Shipyard.

As they ventured out into their neighbours' systems, they found that there was certain profitability in their prolific building methods. Several other races; like the Lumati, the Corillani and the Pak'ma'ra, who do not have the manual skills or the care to learn any, began offering large sums of resources and money to the Autocracy to build their ships for them. Using their own designs and resources, which they would freighter in; they would pay the Grome handsomely to put their ships together. In a few decades, the Grome had made a name for themselves as the invisible hands that built many navies.

*Normal* galactic governments would be hard pressed not to use these private and sometimes experimental design schematics to bolster their own technologies, but not the Grome. Their persistence to be autonomous in their advancement made them perfect to work with sensitive material. Anything new or classified might give the technicians their own ideas as to what they one day might have wanted for themselves, but their racial proclivities kept them from taking anything

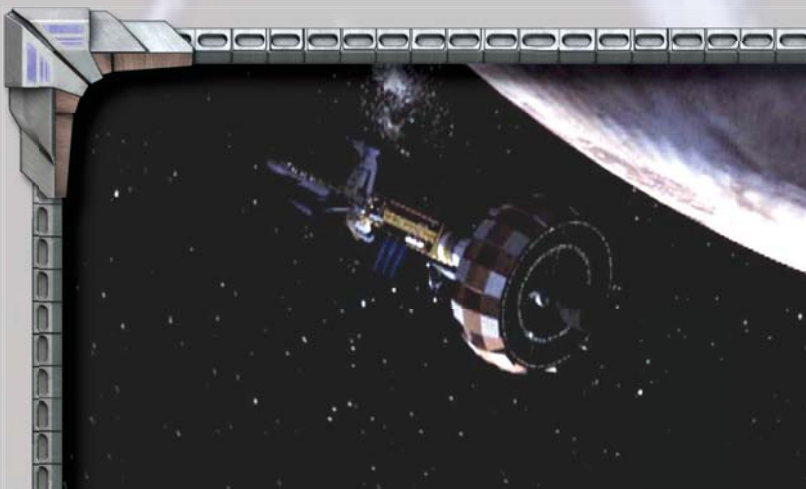
directly from someone else. They would one day *earn* the technology on their own, or they were never meant to have it in the first place.

The shipyard itself is immense. The Grome, when building their own floating fortresses or the massive dreadnoughts of the Pak'ma'ra, have need of truly expansive docking rings and framework. The shipyard is four miles long and two wide when all docking rings are extended. It serves as the transfer point for the system, trading post, armed forces training facility and, of course, the shipyard itself. For such a little-visited system filled with belligerent aliens always looking to prove something to the galaxy, it is an impressive sight to emerge from their jump gate only to have your view filled with miles of metal wrapped around dozens of unfinished hulls.

The self-helping mentality of the Grome might make them very driven and honest in the business, but it also makes them nearly impossible to get restricted items through. Unless it is one of the Grome's own weapon systems (which have been sarcastically described as 'Raindrop Arrays' due to their inability to pierce most hulls and staggeringly fast rate of fire) it is not likely to be found here. All of the extra materials that are unused are returned to the client, or scrapped for their component substances.

### USING SHIPYARDS IN THE GAME

Besides the obvious use of creating a spacecraft, there are a handful of good reasons why a group of Player Characters might need to reach a shipyard. The following are just a handful of ideas Games Masters can use to involve facilities like these in their chronicles.







- 5# The Player Characters could be involved with a company or organisation that has recently had a ship designed for them at a tiny, out of the way shipyard in a system near the Rim. Sending them to this backwater shipyard they find not only the facility deserted of crew but the ship nowhere to be found. This could lead them on a galaxy-wide hunt for the thieves. Or maybe, while they are searching the shipyard for clues they are found by the local authorities – who instantly assume they are to blame.
- 5# The Player Characters' ship might suffer major damage in an asteroid belt or fire fight, and come limping into the territory of a massively expensive shipyard run by Brakiri. Knowing that they are not going anywhere without some serious repairs, the shipyard's owners make a deal with the Player Characters: perform a host of tasks to repay the repairs or find other ways to come up with the credits. The Player Characters could then go on a series of adventures as indentured servants of the shipyard, resort to thievery to pay them back, or even just try to double-cross the shipyard at the first opportunity!
- 5# In a game that is set a little further in the future, in the late 2260s/early 70s, a group could be involved in Vir's terrorist actions against Bentat Yard. They could be placed directly in the way of the tyrannical Drakh and their repairs to the shipyard, or possibly caught in the act and soon enveloped into the Drakhs' horrible plots and schemes – knowingly or not.
- 5# The Vree Spacer's Guild does not always have time to collect on the debts incurred at Facility Beta, especially from those races that might be a little *hesitant* to pay. Facility Beta could hire a group of Player Characters with martial or ex-military backgrounds to be their 'repo men' on retainer. Equipping them with some of the finest

technologies the Vree have at their disposal, they could hand these bounty hunters a list of names, places, amounts and ships – the rest could be one fierce string of adventures.

## SPACEDOCKS

More specialised than a shipyard, but far more common than any sort of private project, the spacedock is exactly as the name implies – a single (sometimes dual) docking array floating in space to which ships can be attached. In some cases this means the ship will fly up and attach to drop off supplies, recharge atmospheric stores or just take a rest. Generally though, ships are actually *built* while attached to these floating frames.

Spacedocks, unlike shipyards, are rarely crewed beyond operational personnel. This leaves far less risk and cost to the spacedock owner, who has only his facility to worry about. Projects come and go, bringing their own crews or freelance workers belonging to the owner. Resources are not provided as a standard, with crafty spacedock owners keeping supplies of extra materials on hand in case they come in useful.

Spacedocks are often treated as little more than a rented workspace for a company or government to undertake their shipbuilding. They tend to be a little further off the space lanes than shipyards, and are never built on a planet. Such a construction would take up a great deal of space planetside, and would be hard-pressed to produce the kind of craft that a simple shipyard production dome could not do faster.

Every spacedock that is considered a permanent fixture in its corner of space has three main points in common:

*By Assignment Only:* Unlike their more corporate cousins, spacedocks are very rarely open for business constantly and are more often kept dormant and vacant until a sizeable and lucrative contract comes along to make it worth turning the power back on again. Even the so-called 'public access' spacedocks require the would-be ship purchaser to arrange for a specific time to bring his resources, crew and design to the docks to begin the actual building process. Due to the specialist nature of the industry, even those spacedocks that take appointments all year round will still have considerable waiting periods while the facilities are cleaned, structured for the new design and ultimately 'reset' for new clientele.

All of this means that it takes a bit more effort to get a purchaser's name on the list to use a spacedock. They have to discover the whereabouts of the spacedock, find its owner, then convince him (through credit or conversation) to allow the purchaser's design to be built there. While it often saves a great deal on production costs, it remains to be seen if the savings will be worth the overall expenditure on resources, labour and *other* costs.



## Shipbuilding in Babylon 5

*Low Profile:* Shipyards rely on the fact that everyone sees them, sees their advertising and their 'competitive rates'. Spacedocks, conversely, could not possibly handle the massive levels of business that a shipyard receives. The owner would be rich beyond his expectations, but his facility would be falling apart from overuse in a few years instead of decades. Spacedocks rely mainly on word of mouth, or the occasionally sought out clientele.

These are rarely the only investment of the spacedock's owner(s), and are probably side ventures to diversify their assets in case of the outbreak of war, depression or other financial crisis. That is not to say they are not in the industry to make a profit. It is merely not often that a spacedock is a primary source of constant income. They tend to take on contracts too few and far between to be too reliable in that fashion.

It is this lower profile that helps subversive militaries, mercenary groups or raiders get by without having to keep extensive records of where they got their ships, who built them and why. While this does leave a lot to subterfuge and

weighted credits, it means that a spacedock owner rarely has to worry about the authorities.

*Malleable Production Rate:* Spacedocks are only as fast as the crew the purchaser hires to build. The owner, even those who keep freelance crews around just in case, has little control over the way the ship is being put together.

It does, however mean that the *quantity* of ships that a spacedock can produce is seriously hampered. Between the fact that spacedocks rarely have more than two births and that an owner may not want to contract out his facility for *too* long at any one time, a maximum of one or two ships will be built at a spacedock on any given contract. If a purchaser wants a large scale production, but does not want the publicity that comes with building at a shipyard, he will no doubt have to arrange for multiple spacedocks to be working all at once. A hassle, but one that the purchaser may want to deal with considering the nature of the order.

Spacedocks are simply not built for long term or factory-style productions, but are perfect for those who want one or two

### Savings? What Savings?

You may have noticed that we claim that spacedocks are much cheaper to build at than a corporate shipyard. Looking at the Spacedock Average Values table on page 14, you might see that the savings are indeed considerable – but not staggering. That is because the savings lie in the cost of labour.

By not having to use the workers supplied at a shipyard, who could be under-skilled, overworked or simply lazy, you can arrange for your own set of workers, thereby making the actual building of the spacecraft faster (through more skilled employees) and cheaper (through more efficient use of resources). The savings falls upon the purchaser to choose the right labour staff, or else all they save is the meagre amount found on the Spacedock Average Values table.

The Staff Fee Reductions table is a good representation of how much a purchaser can cut from those categories by hiring a better skilled crew to work at a spacedock, rather than simply using the average ones at a shipyard.

#### Staff Fee Reductions

Expert Work Staff Skill Level	Diplomacy Check to Hire	Construction Time Reduction <sup>1</sup>	Cost Reduction <sup>1</sup>
Above Average	DC 15	-5%	N/A
Well Respected	DC 20	-10%	-5%
Highly Recommended	DC 25	-15%	-10%
Galaxy-Wide Recognition	DC 30	-20%	-20%

<sup>1</sup> Reduction to values found on Base Hull Value table (page 32).



### Spacedock Average Values

Maximum Vessel Size	Intrigue or Knowledge DC	Influence Check Required	Waiting Period	Arrangement Fees	Rental Fees
Fine <sup>1</sup>	N/A	N/A	N/A	N/A	N/A
Diminutive <sup>1</sup>	N/A	N/A	N/A	N/A	N/A
Tiny <sup>1</sup>	N/A	N/A	N/A	N/A	N/A
Small <sup>1</sup>	N/A	N/A	N/A	N/A	N/A
Medium	DC 30	DC 15 <sup>2</sup>	1d3 weeks	1d3 x 1,000 cr.	2,000 cr./week
Large	DC 25	DC 20 <sup>2</sup>	1d6 weeks	1d6 x 1,000 cr.	1,700 cr./week
Huge	DC 20	DC 25 <sup>2</sup>	1d3 months	2d6 x 1,000 cr.	1,500 cr./week
Gargantuan	DC 15	DC 30 <sup>2</sup>	1d6 months	1d6 x 10,000 cr.	1,000 cr./week
Colossal	DC 10	DC 40 <sup>2</sup>	1d4 days	1d4 x 50,000 cr.	5,000 cr./month

<sup>1</sup> Spacecraft of these sizes are far too small for even the smallest spacedock to waste its time and space building.

<sup>2</sup> This number is only used if a spacedock of this size is not currently being used, otherwise it is treated as N/A.

ships done right, by the right crew, and for the right amount of money.

## Generic Spacedock Usage

Spacedocks are rather linear constructions that do not change all that much from structure to structure other than size, placement and ownership. Each one has its own personality due to the regulations the owner may place upon it, but the most drastic differences are actually the steps needing to be taken before the actual contracting. Finding a decent spacedock can be half the adventure.

Players who decide to start the process of finding a good spacedock for their needs might discover several. They might deny one in favour of another due to the personality of its owners. Such is the nature of the business. To help a Games Master put together the 'perfect' spacedock for his players, the Spacedock Average Values table (and explanations thereafter) contains guidelines to follow in finding and hiring a variety of spacedocks. As always, Games Masters can alter or ignore this table however they see fit for their own game.

*Maximum Vessel Size:* This category lists the largest possible spacecraft the spacedock can create due to the limitations of its framework. When a spacedock has to try and build larger craft than it is built for, several dangerous space walks in maintenance suits and the use of remote drones are necessary – making it far too dangerous for the average spacedock owner to allow. Any spacedock can choose to build a smaller craft if the purchaser requests it, but the rest of the spacedock information remains the same for its Maximum Size allowance.

*Intrigue or Knowledge DC:* Finding the right spacedock is sometimes the most difficult and time consuming aspect of building

a ship. They are rarely far away from populated centres, but are also not advertised or spoken of in most circles. Any Player Character wishing to locate a spacedock without simply paying someone to discover it for them must first pass either an Intrigue or Knowledge (specific local, if it is applicable) check at the listed DC in order to receive a lead on the spacedock. Games Masters may wish to have multiple checks made in certain cases, but only at their discretion.

It should be noted that it becomes easier to discover spacedocks that are designed to handle much larger spacecraft. The more titanic a spacedock's framework is, the less likely it will go unnoticed on sensors and its location will spread through the gossip chain faster than local scandal. It takes great measures to keep projects of an immense size hidden from the public, and due to those circumstances the Games Master can raise the DC of this check or disallow it altogether in special cases.

*Influence Check Required:* Simply finding a spacedock will not do anything to persuade its owner or manager to let the purchaser use it. The number listed is the Influence check necessary to attain the attentions of the owning parties and open them up to contracting it out to the purchaser. Due to the amount of time, cost and risk that goes into building behemoths of space travel this number increases accordingly with the size of the spacedock.

*Waiting Period:* It takes time for a common spacedock to get ready to accept a labour crew and their resources once the contract has been accepted. While nowhere near the time it takes to wait in queue at a shipyard, it still may be a while before some facilities will be in working order and prepared for the construction. The number listed is the time it will take before the spacedock will accept any of the purchaser's work crew or resource shipments. Only the year-round spacedocks that are so few and far between eliminate this waiting period, instead using the relevant Waiting Period from the Shipyard Average Values table instead.

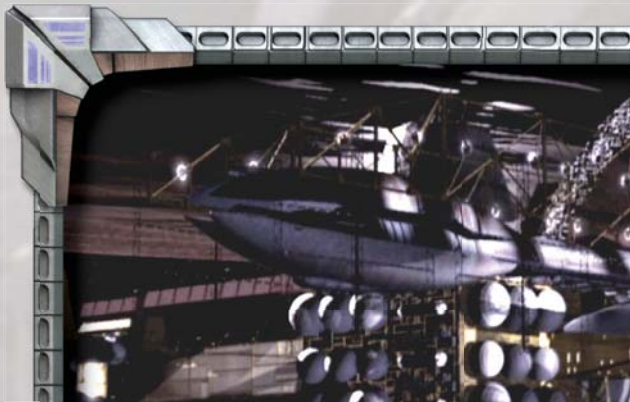


The exception to this is the rare spacedock with a framework large enough to build the unfathomably large Colossal spacecraft. These are such lengthy projects to undertake that few spacedocks perform these duties more than once every few years. Because of this, they may already have projects in progress – which would make them utterly unavailable to take on a new one. If they are vacant, it takes almost no time to prepare a spacedock for such an endeavour, as such projects are far too large to worry about shining the chrome and cleaning the floors. A spacedock that is about to begin a Colossal build will do a quick inspection, then quickly admit the lucrative business deal.

**Arrangement Fees:** A spacedock owner is not going to just shake a purchaser's hand and walk away from the negotiations table without some kind of retainer to begin preparations. The listed amount is basically the 'down payment' for use of the spacedock, which could go up or down drastically depending on the relationship between the purchaser and the owner. For example, a governmental agent who has hired the same spacedock twenty times before to build war cruisers outside of the public's eye might not have to pay any form of arrangement fee as they have a dedicated and ironclad history. However, a raider captain 'just passing through' looking to slap together a pair of new attack cruisers might pay double or triple the listed amount due to the risk to the spacedock – and the owner!

**Rental Fees:** This is where the real profit margin is padded for the spacedock owner. Spacecraft construction can take a very long time, especially with the sizes of craft some spacedocks might see created in their frames. By assigning a specific rate to rent out their facilities, spacedock owners can make a great deal of their money.

In an effort to make purchasers looking to build larger craft feel like they are getting a better deal, it has become common practice to give a slightly relaxed rate to their projects. This is rarely a loss in any way, because if the owner puts a 15% discount on their rate to a project that will take 50% more time regardless, they are still coming in way ahead.



This rental fee is collected in various ways depending on the owner. Some require monthly payments ahead of time, some simply bill the client after the construction and some stop by weekly to make sure they are getting paid. Games Masters should create a payment style in line with the personality of the owner accordingly.

## EXAMPLES OF GALACTIC SPACEDOCKS

The following are a few good examples of pre-designed spacedocks for use in the *Babylon 5* universe. Each entry contains all the information necessary to include it in any campaign, including the useful data in order to contractually rent the spacedock for building a vessel. Games Masters can use them as is, or tailor them to better fit their own campaigns by adjusting values, names or even galactic placement.

### Gossan'Tat – The Dragon's Womb

**Location:** Sh'lassa-N'chak'fah Restricted Route

**Years in Service:** 2259+

**Maximum Vessel Production Size:** Huge

**Intrigue or Knowledge DC:** DC 30 (DC 18 for raiders, Gaim and Sh'lassans)

**Influence Check Required:** DC 12 (DC 5 for Gaim and Sh'lassans)

**Waiting Period:** 2d6 days

**Arrangement Fees:** 5,000 cr. (Free for Sh'lassans)

**Rental Fees:** 1,500 cr./week (Free for Sh'lassans)

Located near a large asteroid cluster just off the restricted jump route between the capitols of the Gaim Intelligence and the so-called Sh'lassan Royal Empire, the hidden Gossan'Tat Spacedock thrives. The 'Dragons' Womb' as it is translated from Sh'lassan, is a secret production facility where the rebellious 'freedom fighters' (collectively called the Fyr'gossan) have been building their secret rebel armada of warships to use in their eventual war against what they see as Earth Alliance oppression.

After the Matok Massacre and the heavily televised routing of the Sh'lassan rebel forces, they were forced to submit to Earth Alliance watchmen again. Up until the situation surrounding Babylon 5 and its controversial captain drew all Earther eyes in that direction – giving the Sh'lassans and their militant raider force the room to escape elsewhere to continue their revolution.

Immediately heading out to search for a decent place to start rebuilding, they came upon a stationary pocket of mineral-rich asteroids a few light years away from Sh'lassa. It would have been perfect, except for one minor issue – the dozens of



Gaim mining encampments scuttling along their surface. It seemed that this area was already claimed by the Intelligence. Knowing that their meagre picket fleet would never be able to deal with a Gaim defence force they quickly sent messengers from the Fyr'gossan to try and negotiate.

Pleading with the Gaim for a corner of this asteroid field meant very little to the generally emotionless insects, leading to a dead end discussion over their sovereign rights and the 'general good'. All the Gaim cared about was the ability to mine the asteroids – which the Sh'lassans were happily ready to allow. As long as the Gaim did not mind them building a sizeable spacedock and perhaps eventually a starbase (should resources allow), they cared little for the floating rocks. An agreement was reached, and the Dragon's Womb was built.

As the months moved on, the spacedock – owned and controlled by the leaders of the Fyr'gossan – began to look for outside donations to their cause. Coming up empty from nearly any faction or political power that would not immediately turn them in, they chose instead to start leasing out the construction facilities on occasion to others of their ilk; criminals, refugees and freedom fighters, at exorbitant costs to make their money 'legitimately'. Even the Gaim borrowed their docks from time to time, when the Queens claimed to have a project they did not care to be made public.

Due to the sensitive nature of their growing war fleet – mostly mid-range defence frigates and support cruisers, with a few battleships – they moved the entire group deeper into the asteroid field to avoid detection whenever outsiders came to use the facility. There would always be some question as to why supply shuttles and personnel transports would disappear into the clutter, returning days later after seemingly going nowhere. Many suspected a base or hidden ship, but no one would have believed the sizeable force they created.

In 2264 the Gaim decided to abandon the mining efforts, coming to the conclusion that most of the asteroids were cleaned out of anything worthwhile. This left the whole area in the Fyr'gossans' hands, to which they redoubled their efforts unfettered by the watching insects. They increased production rates and soon used the asteroids as training courses for their more-than-capable fighter pilots. When the day would come that they would have to confront Earth, they would be the underdog. The spacedock was an essential resource, with it being monitored, protected and repaired constantly for almost a decade.

The spacedock itself is a rather large framework that has room to build three Gargantuan-sized spacecraft at any one time, even though it rarely builds anything larger than Large-sized. It is overseen by several patrolling fighter flights and at least one enhanced scout-

frigate used to keep track of the hyperspace route that runs nearby. There are almost always a few dozen Sh'lassan security guards, pilots and negotiators. While it is not the starbase they would like to have, it serves its purpose well and could be attributed to the eventual sovereignty of the Sh'lassan Empire.

Even after the Sh'lassans earned their 'freedom' in 2272 after a surprisingly non-violent revolution, the Dragon's Womb continued to be a hidden facility. Their government never truly believed that the Earth Alliance would leave them alone forever, so it proceeded in its creation of warships. Whether or not their worries were justified was never tested, but their preparedness around the Gossan'Tat never faltered.

## The Watchtower II of Dorac Prime, Edgars Industries

**Location:** Dorac I

**Years in Service:** 2263-2266 (I), 2267+ (II)

**Maximum Vessel Production Size:** Colossal

**Intrigue or Knowledge DC:** DC 40 (DC 15 after 2266)

**Influence Check Required:** DC 40 (DC 15 for Anla'Shok)

**Waiting Period:** 1d4 weeks

**Arrangement Fees:** 2,000 cr. (free for Anla'Shok)

**Rental Fees:** 500 cr./week (free for Anla'Shok)

One of the first official endeavours of the Interstellar Alliance once the headquarters were moved from Babylon 5 to Minbar, was President Sheridan's request for a 'larger and more powerful White Star'. In under a year the chief engineers amongst the Anla'Shok, Edgars Industries (thanks to a certain Michael Garibaldi) and the ISA came up with the magnificent destroyers later classified as Victory-class. As these ships were going to be unbelievably immense, Sheridan was going to need an even bigger spacedock to build them at.

Using an old planet just outside the heavily fortified Vorlon Remnant and the Minbari Federation, with no commonly used jump routes nearby, Edgars Industries commissioned what Garibaldi called sarcastically 'the Watchtower'. He gave it this name because of the intense scrutiny that the project – and its lead designer, Alexander Drake – would be under. He would commonly make comments over private channel StellarCom that he was personally keeping tabs on *everything*.

Nearly everything went as planned. The spacedock was a complete success and the first two prototype destroyers were built using a mixture of the Vorlon technologies reverse-engineered from salvaged vessels at Coriana VI or the White Stars themselves. The twin giants were not even fully operational before

### Shipbuilding in Babylon 5





a crisis forced Sheridan to steal his own ships and pit them against a fully functional Drakh war armada and a leftover Shadow Death Cloud planet-killer. In the end it was a concerted effort between the *Victory* and the *Excalibur* that destroyed the Death cloud and sent the Drakh retreating back toward Centauri space to lick their wounds. In fact, it was the sacrifice of the *Victory* that named the class of ship for future vessels.

On their way back to their secret construction facilities near Bentat, the Drakh steered a bit wide and stopped by the Watchtower – taking out their frustration over their loss on the relatively defenceless spacedock. With only a few White Stars that were waiting to be repaired and a Minbari cruiser on patrol, the Watchtower was sliced to pieces by the Drakh's powerful microwave beams. Long before anyone came back from the battlefield over Earth to see what had happened, everyone at the facility was dead.

Knowing that the threat was not fully passed, Sheridan commissioned Edgars Industries yet again to build the Watchtower. Sending as many resources, labourers and assistants as they needed, the ISA saw the spacedock built in record time. By the spring of 2267 they were filling the births at the Watchtower with new and improved White Stars and the full production of more Victory-class destroyers. It had become home to the regeneration of the Interstellar Alliance's

fleet and the site of another major battle later, during the Drakh War.

The Watchtower II was spared no expense in making it a veritable fortress of a spacedock. Mk II Interceptors, fusion cannon turrets and a full hangar bay of Nials and Thunderbolt Starfuries keep the area safe from the average intruder.

Such a massive military presence by the ISA does not mean that the facility is not open for other parties' use. In fact, Edgars Industries promotes the use of the facility in order to recoup some of their financial losses from the first Watchtower. Prices are reasonable, the work docket can be altered quickly for a paying customer if all that is being worked on is ISA vessels, and the protection of the Rangers is offered while a project is being completed. This really only attracts legitimate purchasers from ISA member race worlds, as so much 'law' in one place scares away anyone not affiliated in a heartbeat.

Edgars Industries has provided funding for the Watchtower II since its inception, but unfortunately sees very little in the way of profit in return. This has come up in boardroom meetings several times, with many directors and advisors trying to make Garibaldi see that the ISA needs to simply buy the spacedock from them – rather than constantly supporting the war machine of his old friend Sheridan. Normally a savvy businessman, Garibaldi cannot help but side with his friend



in this matter, possibly still looking for a way to make up for what he was forced to do during the Earth Civil War nearly a decade since.

## Orso's Discount Construction Flotilla

**Location:** Zafran VIII

**Years in Service:** 2248+

**Maximum Vessel Production Size:** Large

**Intrigue or Knowledge DC:** DC 20

**Influence Check Required:** None necessary

**Waiting Period:** 1d6 weeks

**Arrangement Fees:** 1,500 cr.

**Rental Fees:** 1,500 cr./week

Off the normal path enough to be considered 'elusive', Orso's Discount Construction Flotilla has been nicknamed the 'Shipbuilder's Flea Market' by those who frequent the smaller spacedock and attached transfer point. It has been heralded as 'the singularly most likely place to find both nothing and everything' by the Universe Today, and will not turn away any client that has the money to do business.

Orso Telex, a Human Vicker (cyborgs capable of recording nearly anything they witness) supposedly won the transfer point in an illegal card game of Llorentian Ovals. It is rumoured that his cyberorganic brain was damaged in the resulting bar brawl, and ever since that day he has seemed a little on the *odd* side. Sometimes his conversations trail off on tangents, other times his behaviour is wildly erratic where moments before he seemed perfectly normal. His moods are as changeable as the wind, and any shipbuilder dealing with him needs more than a little luck if he wants a favourable deal.

Orso has slowly evolved the whole facility to match his scrambled and haphazard trains of thought. The transfer point resembles an old bazaar, with stalls and booths employing a variety of races selling a variety of wares. From replacement tools to Quantum-40, Orso seems to have some of it all, but his supplies are as erratically stocked as his brain. As a general rule, there is a 75% chance that Orso will have a particular piece of shipbuilding equipment or starship components on hand at half-again normal costs, but if multiples are necessary (and they often are) there is only a 25% chance he has just one more. It takes Orso a few hours to arrange for any kind of delivery of these items, which he will do after payment has been arranged. He might be a little eccentric, but he still retains a solid business mind.

The Discount Construction Flotilla is a twin-birth spacedock a short umbilical away, well lit and protected by a pair of small cobbled defence turrets. The construction facility is in use most months out of the

year, but seldom is it called upon to build multiple orders unless it is for the same purchaser. Orso makes most of his money from the sales at the transfer point, not the construction facility.

Even so, Orso has gotten quite a bit of local business in the latter 2250s and 60s as raider activity has been on the rise and there have been no fewer than 3 major wars and dozens of skirmishes. This means that a neutral spacedock that does not ask silly questions or take sides after a battle is one of the first places to go to either repair your losses or spend your spoils. After the tumultuous end to the Earth Civil War in 2261, Orso's was more or less commandeered by EarthForce for over a year to rebuild many of the destroyed or damaged ships. It may not have been a very exciting time for the facility, but Earth paid very well for the repairs. So much so that Orso is said to have bought a small moon estate outside the Disney Planet with the profits!

With Orso's Flotilla not being farther than one jump from several different governments (and the secret Streib/Drakh base on Thenothk) he has gotten very used to the common squabbles of politicians, soldiers and patriots. He has been approached several times to join one government or territory time and time again, but he always answers in a steadfast negative. He firmly believes that his neutrality is what brings in so many clients, even if the waiting line has occasionally broken out into hostilities on occasion. To Orso, their destructive stupidity is money in the bank.

## USING SPACEDOCKS IN THE GAME

Besides the obvious use of creating a spacecraft, there are a handful of good reasons why a group of Player Characters might need to come to or contract a spacedock for plot reasons. The following are just a handful of ideas Games Masters can use to involve facilities like these in their games.

- 5# The Player Characters could find an out of the way, unexpected spacedock, deserted in the middle of empty space. Visibly docked under the framework – but seemingly fully built and repaired – is a ship unlike they have ever seen before. It may be some kind of unique design, or perhaps it is just a vessel they have not yet been in contact with. Whatever the case, when they come aboard the spacedock they find all of the crew long dead and most of the systems running on auto. The ship indeed is fully functional and stocked for flight, but all of the manifests and contract information has been destroyed, leaving this advanced and unique ship in the Player Characters' hands. What if someone were to come after it? What if it was made using invasive and



## Shipbuilding in Babylon 5

misunderstood alien technologies? What if *it* killed the crew and is just waiting for its next prey?

5# If there are a high number of worker or related characters in the group they could manage to land a very high-paying job building some experimental craft at a backwater spacedock; a real sweet government deal. All of the normal confidentiality agreements are signed, the first paycheque hits the account and soon the characters are headed to the worksite. When they get there they discover they are being asked to attach forbidden biological or mass driver weapon systems to a ship about to be sent on a suicide mission to an enemy colony. Do they quit? Should they try to sabotage the ship instead and save hundreds of thousands of lives? Or do they go along with it, stowing away on the vessel to see the carnage unfold?

5# The Sh'lassan provisional government knows that the Earth Alliance and the Gaim Intelligence have become closer since Sheridan's dealings with them on Babylon 5. They cannot let the glory of the White Stars and his trip to Z'ha'dum hinder their tenuous agreement with The Gaim for the Dragon's Womb. They are willing to hire the Player Characters for a very short mission, using a newly built craft they can pick up at the Gossan'Tat – a mock White Star. The ship looks the part, but has none of the bells and whistles that the Anla'Shok ship does. The mission is simply to shake up the Gaim's level of respect for Sheridan by firing upon some old asteroids in a neighbouring system, making a few passes, then flying back to the spacedock. Simple enough, except that the asteroids are unknowingly dotted with Gaim mining drones. And what will the Fyr'gossan do with the players if they actually return?

5# The Player Characters are part of Drake's construction and testing team on the final stages of the new advanced destroyers, but have a sneaking suspicion that something is not right with their foreman. He has made several erroneous measurements and technical decisions that a first year docker would catch, seems a great deal more

nervous (even when Mr Garibaldi is not around) and has received a dozen or more coded transmissions from Centauri space. Do they try and confront him and risk getting fired, or do they go above his head and risk being wrong? Or do they wait too long and get caught in the path of the Drakh's return trip that destroys Watchtower I?

5# After repairing so many EarthForce cruisers, Orso goes on an extended vacation to his new home on Disney Planet, leaving his Flotilla to a team of semi-capable young entrepreneurs – the Player Characters. The only problem is, Orso was just crazy enough to keep a great deal of his inner workings a secret and now that the Flotilla is back to being open for outside business... there is a flood of unexpected spacedock traffic! Will the Player Characters crack up having to deal with the mess they have been handed? Will they try and revamp his process in order to make a semblance of order in the chaos?

## Private Projects

Privately organised, funded and enacted shipbuilding programs are unlike either of the two commonly used avenues of ship construction. Where a shipyard is a business and spacedocks are a service, private project shipbuilding is an *art form*.

Only those people powerful and wealthy beyond common imagining can possibly afford to set up a private shipbuilding facility. They are often found in the guise of eccentric trade moguls who simply wish to have the finest money can buy and do not wish to 'sully themselves' with a mainstream vessel, or in the form of private organisations with hefty dues that want to create a special transport for their members and the like. Sometimes it may be something more, something deeper, that brings a person or group to build a special spacecraft in secret. Due to the sheer expense of such a project, it is rarely done on a whim. No one is *that* rich... or are they?

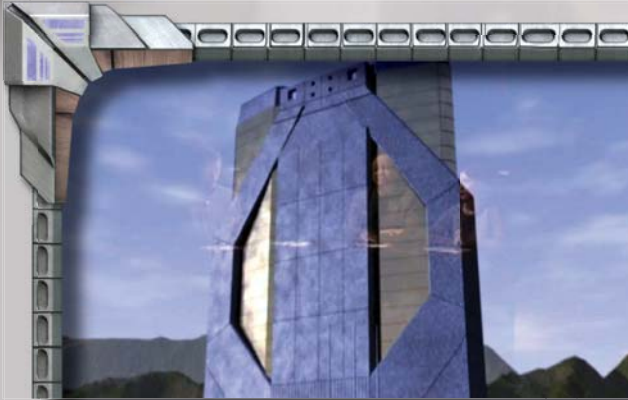
### Private Project Modifiers

Reason for Private Project	Cost Multiplier <sup>1</sup>	Time Multiplier <sup>1</sup>
Religious ceremony, spiritual purity, matters of the soul, etc.	x3	x5
Social gratification, unveiled uniqueness, peer recognition, etc.	x5	x5
Mental or social complications, dementia, etc.	x2d3	x1d6
Racial or religious bigotry, revenge to industry, etc.	x3	x3
Unexpected insight, completion of a dream, life's work, etc.	x2d6	x10
Illegal, scandalous or forbidden reasons	x2/x4/x8 <sup>2</sup>	x3

<sup>1</sup> These multipliers only apply to the cost of the Base Hull, as it rarely takes longer or costs more money to add a weapon system to one ship than it does the next.

<sup>2</sup> This rate doubles every time the private project has to relocate due to being discovered by those it is primarily being hidden from (authorities, competitors, Vorlons).





Unlike shipyards and spacedocks, which follow certain ideologies in spacecraft construction, the only limitations and regulations set by a private project are those set by the purchaser, the design of the craft itself and the basic laws of physics. If the Abbai inventor of mediplast wants to have her personal transport built completely underwater in order to keep airborne bacteria out of the pre-sealed hull – and is willing to pay the exorbitant costs associated with such an endeavour – more power to her. If a Markab noble wants to bring in a priest to bless each and every nut and bolt of his new shuttle, anointing them with holy oils and transcribing them with sanctifying prayers, so be it.

While there is no good way to describe the level, degree or severity of specifics that these private projects can call upon to modify the costs and time required; the following is a start. The following table describes just a handful of common reasons why someone would want to undertake a private project, the modifiers it adds to the cost of the vessel and the increase in time it would take to construct.

*Religious ceremony, spiritual purity, matters of the soul, etc.:* Some races in the galaxy are far more spiritually bound than others. In some, very deeply rooted, cases an individual may require specific rituals to be performed during a construction that a normal facility would never allow. On other occasions the construction *must* take place at a specific place, time or both. In an effort to control these factors much more efficiently, these groups will undertake personal projects at such a greater cost to assure that they would not risk the purity of their spiritual standing.

*Social gratification, unveiled uniqueness, peer recognition, etc.:* Someone wise once said 'there is always a bigger fish'. This holds true in social and political circles as much as any natural setting. When one senator buys a brand new ship, his peers will want something bigger and better, their peers will up the ante once again and eventually there is nowhere to go by conventional means – so the truly competitive make their own rules and invest in a

one-of-kind, privately designed luxury that will have their friends and enemies alike lusting after it. Until, of course, the next big thing arrives...

*Mental or social complications, dementia, etc.:* There are those in the galaxy who have lost touch with reality in some way, but still have somehow managed to attain and retain their fortunes. The two could very well be linked. Whatever the reasons, when one of these 'eccentrics' decides to put their money into a project there is no telling what might happen. Workers might be required to wear special suits that 'seal in their germs' or the ship might need to have children's stories read to it in seven different languages for twelve hours a day. It really can be any number of things when dealing with the slightly (or wholly) mad, but it promises to be more than just an exciting process nonetheless.

*Racial or religious bigotry, revenge to industry, etc.:* Some races or cultures simply do not like each other. Some people refuse to give money to an industry they feel is corrupt and beyond repair. These are the people who will pay enormously for ship construction to avoid using union help, or to make sure that a particular race or religion does not ever touch their vessel. So strong is their hatred or fear that they will gladly pay more than double what the ship is actually worth to assure its 'purity', or simply to keep that money out of the hands of those they dislike so much.

*Unexpected insight, completion of a dream, life's work, etc.:* Many ship designers yearn to build that one perfect ship. It may take them years, bankrupting them and their loved ones, but they will finish their beloved vision. They cannot risk their dream being stolen or copied, so they *have* to do this alone...there is just too much at stake. With a little help, these dreams might be scooped up by a government or organisation, and they will be recognised for the genius they truly are. Although there are many more who will fade into obscurity, their dreams never fully realised.

*Illegal, scandalous or forbidden reasons:* Some projects need to be kept top secret for one reason or another. Whether using forbidden technology or simply building a vessel that is not supposed to exist, these projects are often developed swiftly so that the chance of discovery is kept to a minimum.

## EXAMPLES OF PRIVATE SHIPBUILDING PROJECTS

The following are a few good examples of private projects that took place in the *Babylon 5* universe. Each entry contains all the information necessary to include it in any campaign, including useful data in order for the players to be involved with the construction in some way. Games Masters can use them as is, or tailor

### Shipbuilding in Babylon 5



them to better fit their own campaigns by adjusting values, names or even galactic placement.

### The Travelling Muta-Do

**Location:** Kitab II

**Years in Service:** 2259+

**Size of Vessel(s) Produced:** Huge

**Final Hull Cost:** 1.25 billion credits

After Walker Smith became the first Human being to compete successfully in the Mutai Tournament, the eldest Muta-Do teachers hidden away in Yolu space realised that they needed to take a good, hard look at their traditionalist ways. While there was nothing wrong with what they were doing, knowing that such a powerful and honourable fighter can spring from the *weaker* Earthers, there was reason to believe that some of the other 'weak' races might also have something to add to the sport.

To the Yolu, the Mutai is a collection of others' honour and prowess to show their gods the strength, honour and worthiness of their own. By accepting fighters into their holy tournaments and teaching, competing and besting them with the sanctified warriors of the Mutari their gods – who themselves are often portrayed as fighters – the temples are blessed.

After the decision was made to open the Temples up to *any* combatant capable of surviving the first round of a contest, the collective Muta-Do pooled a vast amount of resources. Nearly bankrupting the Mutai's coffers, the elders decided to build the first ever travelling Mutari Temple.

It was built on a small, out of the way planet in the Kitab System in order not to attract hordes of followers who would want to see the project – and to discourage anti-fight peaceniks from arriving and possible sabotaging the project. It was one of the birthplaces of the Mutai, and someone would have to traverse a lot of space to get there just to complain. Using only Yolu, furthermore only those trained as ring tenders, they had a large Mutai Temple constructed on the basic framework of a very large commercial hull.

Each hull section, adjoining corridor, storage room and bleacher set had to be placed in a very specific order and with a great deal of praying and bloodletting. Anywhere that the Muta-Do might teach his skills needed to be purified with oils and fragrances. The main commons cabin of the ship was turned into a monstrous three-ring Mutai stage surrounded by seating for upwards of a thousand spectators.

After six months of this slow but meticulous process, the *Muta-Do* – a ship aptly, but perhaps unimaginatively named – began its pull out of the 'dock' and began its galaxy-wide tour of the races their writings had forgotten. The mission was simple; to take a fully blessed and sanctified Mutai Tournament Temple in starship form to the corners of the galaxy to allow all comers the chance to prove their race's worth to the Yolu gods through Mutai combat.

In 2263 the *Muta-Do's* made history when it stopped at the colony near Proxima III. Its visit coincided with an Earth Alliance touring boxing circuit, coming into contact with a dozen or more of the best Human pugilists the Alliance had to offer – including the near-legendary Walker Smith. A combined effort between Smith and the ship's captain, Muta-Do Chyiosh, created the first ever inter-sport tournament between the Earth boxers and twelve seasoned Mutari. It was an amazing sight that only enhanced Smith's reputation amongst the Mutari, and was televised later to nearly a hundred different worlds in seventeen different languages. It was the single event that justified the expense of building the craft in the eyes of the Yolu.

The ship 'Yolu Tournament Cruiser *Muta-Do*' is a sizeable craft with very little in the way of offensive weaponry. Shielded with Abbai particle impellers and several additional interceptor turrets, the *Muta-Do* would be in vast amounts of trouble if there was a reason to engage it in a common fire-fight. The Yolu are not foolish, however, and recognise that their most powerful weapon are the sometimes *hundreds* of Mutari on board ready to defend the ship against any attackers. By adding several launching ports for breaching pods – that would be carrying half a dozen of the galaxy's best fighters each – and not being secret about their existence, most raiders think twice before trying their hand at taking on the so-called Tournament Cruiser.





## Muta-Do, Tournament Cruiser

### Huge Spacecraft

**Defence:** 10 (-4 size, +4 Handling); **Armour:** 31; **Handling:** +4; **Sensors:** +3; **Stealth:** 15; **Stress:** 13; **Features:** Jump Point, Gravitic Engine, Targeting Computer +2

**Crew:** League Elite (+9 BAB, +11 Training); 2 Officers, 10 Pilots, 12 Sensor Operators, 98 Crewmen

**Construction Spaces:** 88 (Cargo 32, Control 7, Crew 16, Engine 12, Hangar 4, Weapons 15)

#### Fore Arc Weapons

5# Tri-Linked Particle Beams (Close, Offence 12, 3 weapon spaces)

5# Mk I Interceptor (Close, Offence 3 or Intercept 10, 1 weapon space)

#### Port Arc Weapons

5# Mk I Interceptor (Close, Offence 3 or Intercept 10, 1 weapon space)

#### Starboard Arc Weapons

5# Mk I Interceptor (Close, Offence 3 or Intercept 10, 1 weapon space)

#### Aft Arc Weapons

5# Mk I Interceptor (Close, Offence 3 or Intercept 10, 1 weapon space)

#### Turret Weapons

5# Particle Impeder (Close, Intercept 10, 2 weapon spaces)

5# Particle Impeder (Close, Intercept 10, 2 weapon spaces)

5# Particle Impeder (Close, Intercept 10, 2 weapon spaces)

5# Particle Impeder (Close, Intercept 10, 2 weapon spaces)

**Craft (2):** 2 Light Shuttles

## The Duskhawk Advanced Battlecruiser

**Location:** Fendimir IV

**Years in Service:** 2263+

**Size of Vessel(s) Produced:** Large

**Final Hull Cost:** 775 million credits

During the aftermath of the Shadow War, most notably after the leaving of the First Ones orchestrated at Coriana VI, there was a great deal of leftover Shadowtech that fell into the hands of the races who were (un)lucky and bold enough to grab some. While most races simply wanted a few chunks to study in some manner, to advance their own race's technologies – the Drazi took it one step further.

Like the Earthers, who actually fully integrated Shadow parts onto an Earth design (the Shadow Omega and the Warlock Advanced Cruiser), the Drazi wanted to

pack those terrible ships' offensive power onto their own hulls. They took large chunks of Shadow technology back with them from the battle, scavenged during the chaos that followed, to their research facilities on the so-called 'haunted planet' of Fendimir IV.

Needing to keep the project in utter secrecy from their fellow League members and allies (especially Sheridan and the Minbari, who would have stopped the project immediately) the Drazi were all but stumped as to how to combine the First Ones' technology with their own. Luckily, news arrived of a recent battle between White Stars and several Shadowtech Earth Destroyers. Not wishing to waste the opportunity, the Drazi secretly searched the battleground for wreckage and clues as to the ships' original construction.

Using the parts and circuits from the collected Shadow Omegas, the Drazi discovered the bridge gap between their two technologies and began construction on the first (and only, as it would turn out later) Duskhawk attack vessel.

By pressing the nearby Diranos to do most of the dangerous construction and weapons testing in a shielded and hidden facility near the mysterious Fendimir Fortress, any mishaps or traceable emissions could be blamed on the enigmatic structure just a few miles away. It was a testament to the Drazi ability to be underhanded and self-serving, but also to their ingenuity. Working with Shadowtech can be dangerous and several dozen Diranos died, but the rulers of Fendimir IV considered such a loss as 'acceptable'.

After nearly two years of trial and error, lab tests and dormant cycles to allow the pieces to integrate 'on their own', the *Duskhawk* was ready for its first test flight. It was a quick trip out to the edge of the system and back to test manoeuvrability while occasionally cutting asteroids and donated hulks to shreds with its new advanced weaponry. Once this maiden flight was done, plans for further Duskhawks were drawn up and a production line prepared.

This never happened, however, as the Diranos rebelled against the numerous deaths to come when they saw the resources being shipped in for more ships. The secret shipyard was sacked by waves of the 'primitives', who had learned a great deal about weaponry and warfare from their Drazi 'masters'. These riots were quelled quickly, before they could spread to other tribes, but they had caused enough damage that to build another Duskhawk facility would not be able to be hidden from Interstellar Alliance watchdogs – and so the original prototype would be a one-of-a-kind.

Using the ship as a fast attack vessel against specific ships and strategic targets, the *Duskhawk* is a swift cruiser with unbelievably powerful weaponry. It can rip apart vessels much larger than itself



in moments, preying on sensitive systems and areas rich in life-support to incapacitate a ship before coming back for a second pass to finish it off.

Almost indistinguishable from any other Sunhawk variant, the *Duskhawk* is a sleek ship that rarely leaves Freehold space for fear of ISA agents discovering its origins and trying to scuttle it – or worse, capture it for their own uses.

### *Duskhawk*, Advanced Battlecruiser

#### Large Spacecraft

**Defence:** 15 (-1 size, +6 Handling); **Armour:** 26; **Handling:** +6; **Sensors:** +5; **Stealth:** 23; **Stress:** 8; **Features:** Gravitic Engine, Targeting Computer +4

**Crew:** League Elite (+9 BAB, +11 Training); 2 Officers, 2 Pilots, 5 Sensor Operators, 21 Crewmen

**Construction Spaces:** 42 (Cargo 6, Control 6, Crew 10, Engine 12, Weapons 8)

#### Fore Arc Weapons

- 5# Molecular Slicer Beam (Long, Offence 200, Beam 5d10, 4 weapon spaces)
- 5# Phasing Pulse Cannon (Long, Offence 60, Rapid Fire 2, 4 weapon spaces)

## USING PRIVATE PROJECTS IN THE GAME

Besides the obvious use of the players creating a spacecraft, there are a handful of good reasons why a group of Player Characters might come into contact with another's private shipbuilding project for plot reasons. The following are just a handful of ideas Games Masters can use to involve instances like these in their chronicles.

- 5# A very rich trade mogul has been rumoured to be searching for the 'perfect crew' for his 'pet project' being put together on a remote moon in a remote system, far off the regular trade routes. For whatever reason, he has invited the Player Characters to come to this remote place in order to 'try out'. Here they will be tested against other pilots to see who is the best. As eccentric as the mogul seems, his 'tryouts' are strange, difficult and – as the players will soon discover – possibly deadly! The sheer volume of credits used to build this magnificent creation is mind-boggling, but intriguing to say the least. The Player Characters' team during these Elimination Games has a great deal to gain if they win, as the trade mogul has already promised a very handsome wage to the ship's crew. Will they manage to win, or will they simply try to escape with their skins intact?





5# The *Muta-Do* Tournament Cruiser was foolishly set upon by raiders as it passed through the system, and has been forced to stop and seek repairs in the Player Characters' neck of the galaxy. Just like when it was built, the workers and such on the repairs must all be blessed by the Mutai – which could mean a few days of fisticuffs and martial arts matches throughout the flotilla or spacedock. Any Player Character that could be helpful in the repairs will probably be challenged at least once before being allowed to repair, assist or leave the area. Those who do not will simply have to deal with several dozen stranded Mutari in port, and all that goes along with it.

5# The Drazi government is interested in making more Duskhawk battlecruisers, but now realise that they need extra security staff at the Diranos camps. The money is definitely right, and the Diranos should not hold much in the way of a challenge for seasoned spacefarers like the Player Characters. Even so, there is something not quite right about the project – and someone else might be nearby watching their former masters' being used in such ways. The Player Characters could backstab the Drazi just as easily as they could crush the Diranos. What if the characters or even just one of them was a Ranger devoted to the Interstellar Alliance? What would they do with this information and what would the Drazi do if they discovered that fact?

## SHIPBUILDING CAREER OPTIONS

Other than owning the actual production facility in which spacecraft are built, there are several employment options available to those willing to put in the right amount of effort in the industry at large. Designers, construction labourers, resource managers and even test crew all have their own special role in the process.

The following segment is designed to detail the different Profession skills that Player Characters could take in order to have a more 'hands on' position when shipbuilding. It explains what each career option means, what they do, how much on average they earn and what skills or feats would be helpful. After each career example, we have provided a single personality for Games Masters to use in their own chronicles if they so wish to.

### Starship Designers

The true artistes of the industry, it is these well-versed individuals that make a ship purchaser's dream a reality.

While a purchaser might have some special requests and demands of his designer, they often only use such things as a guideline – unless the designer and the purchaser are the same person. They are well paid and often very astute at their business.

*Note:* Special rules on the skill Profession (starship designer) are on page 35.

The Average Designer Costs table shows the average pay that a starship designer can ask for, depending for their skill in the trade.

### Average Designer Costs

Profession (starship designer) of Chief Designer	Average Earnings per Design
4 ranks or less	1d4 x 500 credits
4 to 8 ranks	2d6 x 1,000 credits
9 to 12 ranks	3d6 x 1,000 credits
13 to 15 ranks	2d6 x 10,000 credits
15 or more	1d4 x 100,000 credits
Per qualified assistant	+10%

Starship designers tend to be the celebrities of the shipbuilding industry, with long waiting lists for their business and even longer invoices for it. They are seen as intellectuals, prized by the industry and sought after by shipbuilders far and wide and often kept on retainer if possible. Shipyards keep lists of acceptable designers on hand for when they have a customer looking to build, whether or not they have their own design pre-drawn.

A designer has ultimate power over the efficiency of a given craft at its purest form, knowing how much can be fit between the lines without buckling the systems and ruining the project. If the designer can manage to add in an extra coupling or reinforced bulkhead here and there, eventually the purchaser will find he has much more room for additional components than he first thought. Good designers can charge hundreds of thousands of credits for their work.

For more on the actual process that starship designers undertake, see the next chapter under Designing Your Hull Chassis (page 34).

### Sir Archibald du Pien of New Paris

Sir Archibald is one of the Earth Alliance's most famous starship designers, commonly hired out by the likes of the EA, IPX and even the League of Non-Aligned Worlds on occasion. He is very



### New Feat: Inspired Designer

By throwing expense to the wind – after all, it is not *your* money – you can imagine new and strange ways to make your designs perfect for your visions. The purchaser might be a little put off by the severe cost difference in your design, but what are a few more thousand credits for the sake of genius?

**Prerequisite:** Profession (starship designer) 6 ranks, Skill Focus (Profession (starship designer))

**Benefit:** You may use this feat to re-roll any Profession (starship designer) skill check and choose the higher roll, but this will summarily add +10% to the final cost of the ship's hull for each re-roll you choose to take.

expensive, setting his projects for no less than 200,000 credits. He has an air about him that makes others believe that he deserves respect and has a certain way of making others simply *want* to go along with his often 'interesting' design options.

Sir Archibald is the original designer for the much-loved Thunderbolt Starfury fighter, which was later re-worked by a few military specialists due to Archibald's distinctive lack of additional weaponry. No matter what the Joint Chiefs demanded of him, he insisted that the padded crash couch and meal bar dispenser were far more important!

### Sir Archibald

9<sup>th</sup> Level Human Worker (white collar); hp 13; Init +0; Spd 30 ft.; DV 14; Atk: +4 close combat or +4 ranged; SQ Vocation (Profession (starship designer)), Worker Type: White Collar (Appraise, Diplomacy & Knowledge (engineering)); Fort +3, Ref +3, Will +6; Str 10, Dex 11, Con 12, Int 19, Wis 11, Cha 16

**Notable Skills:** Appraise +10 (+12 with items associated with starship designer profession), Computer Use +10, Concentration +12, Diplomacy +9, Investigate +4 (+6 if forensic physics check), Knowledge (astrophysics) +16, Knowledge (engineering) +16, Knowledge (Human) +12, Knowledge (physics) +16, Operations (systems) +16, Profession (starship designer) +32, Subterfuge +0 (+2 when sabotaging), Technical (electronics) +18, Technical (engineering) +18, Technical (mechanical) +18

**Feats:** Fluency (Human), Hobby (Knowledge (astrophysics & physics)), Independently Wealthy, Inspired Designer, Skill Focus (Profession (starship designer)), Weapon Proficiency (pistol)

### Construction Labourers

The real heroes of the industry are the labourers are who actually piece the ship together, bit by bit. They get out in the shipyard or spacedock, don heavy maintenance suits and work long shifts so the project can finish on time. It is a very broad title, containing a myriad of specialist jobs like welders, electricians, loaders and even plumbers. Each labourer often focuses on one aspect of the job at hand, leaving the rest to his equally-specialised workmates.

Each labourer will likely have a collection of helpful skills like Technical (engineering) or Technical (electronics) for example. Even though he might consider himself a 'welder' and have many ranks in Technical (mechanical) to represent that,

he will likely also branch out slightly into other Technical skill categories and perhaps some other useful arenas. A good electrician without a high ranks in Computer Use will likely make some expensive mistakes when wiring the inter-ship systems, no matter how much Technical (electronics) he might have. Focussed training is good, but an employee is much more valuable when he can turn his hand to an array of tasks.

Due to the vast number of labourer types, there is an assortment of pay ranges, skills and abilities that would be very useful for each line of work. The following table contains a few examples of labourer types, their favoured skill and abilities, how much they should earn on average (based on a 48 hour work week) and what part of the ship they would likely be working on.

**Loader:** These labourers are basically just able bodies or cargo-bot pilots that help the project move smoothly by making sure the right component or resource is in the right place at the right time for the other labourers to make use of it. They are often used as assistants during the more physically demanding processes, holding a plate while it is being welded or lifting panels while the specialist is working.

**Welder:** These labourers use plasma cutters and high-capacity laser torches to stitch together duraplate, titanix or whatever the main substructure of a ship is made from. They are the reason a ship does not leak atmosphere and why bulkheads do not instantly buckle when re-entering the atmosphere of a planet. They work very hard for their wages, tend to work long hours and have to get used to magnetic boots and working upside down. Sometimes found working in teams on larger projects, they are numerous and invaluable to any shipbuilding endeavour.



### Sample Construction Labourers

Labourer Type	Useful Skill	Primary Ability	Average Earnings per Week	Common Responsibilities
Loader	Athletics	Strength	25 cr.	Relocating components
Welder	Technical (mechanical)	Intelligence	50 cr.	Plate work, substructure
Electrician	Technical (electronics)	Intelligence	75 cr.	Inter-ship systems, general power coupling
Internal System Specialist (Plumber, Comms Programmer, etc.)	Technical (related to system)	Intelligence	75 cr.	Varies per specialist
Computer Specialist	Computer Use	Intelligence	150 cr.	Computers, sensors, automated functions
Weapons Engineer	Technical (mechanical)	Intelligence	100 cr.	Weapon systems, turrets
Zero-G Maintenance-Bot Pilot	Pilot	Dexterity	50 cr.	External Finishing and repairs
Machinist	Technical (mechanical)	Intelligence	60 cr.	Doors, tubes, other moving parts

*Electrician:* Where the welders build the bones and muscles of the ship's body, the electricians wire its nervous system. Stringing miles of cable and couplings through the inner panels of the vessel-in-progress, the electrician's job is to make sure everything is powered up and responsive to its appropriate button or switch. Even if that switch is a mile or more away in the bridge, they must ensure that it will operate the proper element of the ship when it is supposed to.

*Internal Systems Specialist:* These short-term freelance labourers are trained to deal with one specific aspect of the ship. Plumbers look at the water and waste systems while managing the showers (sonic or otherwise) and connecting the important parts to the kitchen. Comms Programmers are in charge of linking all comms terminals, StellarCom units, Universe Today dispensers and so on, and the primary communication arrays for the ship.

*Computer Specialist:* As the name implies, these 'labourers' are responsible for the computerised systems of the ship. In the 23<sup>rd</sup> Century, this actually means a great deal. Almost everything on a starship is run by a computer of some sort, which must generally answer to a main system in the bridge. It is a very important job to undertake, which is why so many purchasers hire entire teams of computer technicians. This not only speeds up the construction process, but it also makes sure there are numerous safety checks and double checks in place before the initial boot-up process takes place.

*Weapons Engineer:* These technicians do not actually design the weapons themselves as the name might imply, merely the way they will fit and function within

the vessel. Turrets require certain clearances, too much power drain to one section of a ship could cause brown outs in the others and firing arcs are very important to any ship expecting engagements.

*Zero-G Maintenance-Bot Pilot:* Only really used in spacedocks and orbital shipyards with external births, the maintenance-bot is a one-man (or remote-driven) spacecraft that is equipped with an assortment of useful tools for ship production, repairs or retrofits. Either using a short-wave remote from a nearby location to steer them, or by actually getting in the cramped space and driving it manually; these labourers are often labourers from another category with a bit of specialised training in how to work their equipment.

*Machinist:* While everything might be commanded by computers or sensors, the actual systems themselves cannot simply do what they do without moving parts. A door panels have to slide open thousands of times and weapon turrets need to be able to swivel when needed. Moving parts are integral to a ship's functions and a machinist makes the wheels turn, levers pull and cranks crank.

*Nuclear Engineer:* Most vessels in the 23<sup>rd</sup> Century are powered by an advanced form of fusion reactor that contains a great deal of energy, radiation and heat to be used in the various systems of the ship – not least of all the engines. Working with these reactors, even when dormant, can be dangerous and deadly should a leak occur or meltdown begin. These labourers are the well-schooled experts on placing, repairing, routing and activating the reactors. Gravitic Engine-based vessels use a far smaller power reactor that does not necessarily have to be



fusion-based, but a nuclear engineer should still be in charge of its applications.

## Rorzach 'The Firefly' Chassazzha

On the list of people to go to with questions concerning nuclear fusion reactors and their direct application for a spacecraft, the Firefly is at the top. Rorzach has grown up helping his family build better engines for the Drazi Freehold ever since he was a hatchling. Getting schooled at the Zhabarian Academy for Mechanical Sciences, he followed the family tradition and joined the Freehold Naval Armoury. His family's dense and durable scaling has made them perfect fusion engineers, easily able to work within the massive exposed engine ports of Drazi military craft.

His claim to fame, and that which earned him a boost in the industry, was the moment that he once held back a nasty reactor breach using his own rad-suit as a welding medium to seal the leak. It took him seven minutes to seal the leak, his naked body absorbing massive amounts of radiation in the process. He was sick for three weeks with rad-poisoning, but returned to work a veritable legend to his peers.

### Rorzach, Premier Technician

6<sup>th</sup> Level Drazi Worker (blue collar); hp 12; Init +3; Spd 30 ft.; DV 14; Atk: +6 close combat or +4 ranged; SQ Scale-Like Skin (DR 2), Short Fuse, Vocation (Technical (engineering)), Worker Type: Blue Collar (Acrobatics, Athletics & Operations (sensors)); Fort +7, Ref +3, Will +2; Str 16, Dex 13, Con 14, Int 15, Wis 10, Cha 10

*Notable Skills:* Acrobatics +6 (+5), Athletics +7 (+6), Computer Use +7, Concentration +11, Knowledge (astrophysics) +11, Knowledge (Drazi) +7, Knowledge (engineering) +16, Knowledge (Human) +5, Operations (sensors) +8, Operations (systems) +5, Subterfuge +1 (+3 when sabotaging), Technical (electronics) +11, Technical (engineering) +17, Technical (mechanical) +11

*Feats:* Brawler, Dense Scales, Fluency (Drazi & Human), Hobby (Knowledge (engineering)), Weapon Proficiency (close combat)

### Resource Management

Management Attitude	Skill Used	Skill check DC	Chance for Mishap <sup>1</sup>	Bonus Effect
Knowledgeable	Knowledge (engineering)	15	10%	-10% to total construction time
Understanding	Diplomacy	20	5%	Workers gain a +2 morale bonus to relevant skill checks
Domineering	Intimidate	20	20%	-20% to total construction time
Logical	Technical (engineering)	15	15%	-10% to final cost of base hull
Hands On	Technical (any)	20	10%	-15% to total construction time

## Resource Managers

Everything involved in a shipbuilding project is considered a resource: the goods, the time, the people, the space and even the ideas. It is a lot to try and keep track of during the hectic schedule of construction, especially when a project might have a hundred different people working on two hundred different jobs at any given time. It is the role of the resource managers to make sure things go smoothly, efficiently and as planned.

Call them foremen, supervisors, planners or any other title; their role is still the same. They manage the various parts of the construction process, each in their own way. Some rely on their own direct knowledge, explaining exactly what needs to go where, why and how. Others choose to simply motivate their workers – through positive or negative reinforcement – rather than becoming involved in their work directly. A rare few resource managers actually came up from the worksite floor, promoted for their abilities to lead those around them. These 'dockside foremen' tend to be well-liked by their peers and have no qualms with working alongside the other labourers.

During the shipbuilding process, a resource manager can try to spur his workers on to faster or more productive work by directing them with more attention. This can make a project move faster, make less waste and therefore cost less. This can be attempted once during shipbuilding – showing the overall management process throughout – using the table below to determine what to roll and what effect it will have on the construction.

It is true that a good resource manager will increase productivity in his workers through their own means, but each style has its own benefits and relevant skill that is used when they try to keep things at their worksite running smoothly. The Resource Management table shows a few of the more common attitudes toward managing labourers, the skills used, the difficulty needed to reach desired productivity, the chance for a mishap to occur that would delay production and the resulting bonus if the management succeeds.



## New Feat: Dockside Foreman

You were promoted not just for your leadership skills, but also your relationship with the workers you are going to manage. Rather than directing from afar you prefer to keep your head and hands thickly in the process the whole time. Few would ever question your work ethic, and fewer still your work requests.

**Prerequisite:** Technical (any) 8 ranks, Charisma 13.

**Benefit:** When rolling the 'Hands On' attitude on the Resource Management Variances table, you may add your Charisma score modifier to the roll and only have a 5% Chance for Mishap.

*Knowledgeable:* These managers use their intrinsic knowledge of the shipbuilding process in order to show the workers where they could make better decisions, cut corners, and otherwise save time. It is not overly difficult to do, and few workers get upset if a manager does this on occasion.

*Understanding:* Managers who simply keep their workers happy through understanding words, frequent breaks and good work environments may not see a massive rise in production rates, but they can count on their workers performing their duties with a little more zeal. Workers that feel like they are being appreciated will always work slightly harder.

*Domineering:* Some managers believe the only way to get through to their workers is with a stern voice and the threat of the proverbial (or literal in some cases) whip at their backs. Threatening with pay cuts, unemployment or longer shifts can force workers to go to great lengths to avoid these fates. This also increases the chance that an employee will become disgruntled or uncaring about his work, leading to possible problems with the construction later.

*Logical:* Looking at the construction process like an equation can also point out flaws and shortcomings that the common worker may not notice. A manager of this attitude can look at the overall picture; deciding what is the most efficient plan of action, while creating the least amount of waste.

*Hands On:* Managers using this attitude get down in the 'trenches' with the other labourers, unafraid to pick up a few tools and make a difference at point zero instead of from behind a desk or observation window. Not only do they inspire workers to do their jobs, but they help perform the work themselves. This can result in a major reduction in construction time, and few

workers would ever question the orders given from someone who is just as neck-deep in ship components.

## 'Sarge' Garwood Soller II

Once a GROPOS sergeant responsible for several campaigns against insurgents all over the Earth Alliance, Garwood Soller II retired from active duty during Sheridan's civil war. He chose to take his severance and go into business for his brother at Aurora Aeronautics. Ever since his retirement, his drill sergeant mentality has spurred on thousands of workers in the Aurora shipyards all over Earth Alliance, as the company ships the Sarge wherever workers need a little instruction.

He is in his late 50s, with one scarred eye that has a slight cloud to its hue and a terrible limp from a knife wound he suffered in the Dilgar War as a grunt. His voice is loud, deep and he can put the fear in men with a single bellow. There is no wonder why the Sarge was never one to back down from an argument, or why he makes few friends wherever he is assigned.

## 'Sarge' Soller

5<sup>th</sup> Level Human Soldier / 3<sup>rd</sup> Level Worker (white collar); hp 25; Init +0; Spd 30 ft.; DV 15; Atk: +8/+3 close combat or +6/+1 ranged; SQ Co-ordinated Unit +1, Vocation (Knowledge (engineering)), Worker Type: White Collar (Appraise, Investigate & Knowledge (engineering)); Fort +7, Ref +2, Will +9; Str 14, Dex 10, Con 15, Int 13, Wis 16, Cha 7

*Notable Skills:* Acrobatics +4, Appraise +9, Athletics +6, Computer Use +5, Concentration +7, Diplomacy +0, Drive +4, Intimidate +9, Investigate +5, Knowledge (engineering) +12, Knowledge (Human) +3, Knowledge (tactics) +5, Operations (systems) +5, Technical (electronics) +7, Technical (engineering) +9, Technical (mechanical) +7

*Feats:* Armour Familiarity, Brawler, Fluency (Human), Iron Will, Nerves of Steel, Skill Focus (Intimidate), Spacecraft Proficiency, Surface Vehicle Proficiency, Weapon Proficiency (close combat, grenade, pistol & rifle)

## Test Crew

As each ship progresses from spare parts and packaged components into ship sections and systems, there is a special type of shipbuilding worker required.

These workers do not necessarily



## Shipbuilding in Babylon 5

patch, build or even think about the ship in progress – it is their job to test the parts that are considered ‘completed’.

Test crewmen are essential to any project that is large enough to have multiple systems going online at a time when the ship itself is incomplete. Waiting until the ship is finished, then packing it full of crew to test on its maiden voyage can be a deadly mistake if one of the earlier components required for a safe trip had never been tested properly. It could spell disaster for the ship, the crew and the project. Test crew are hired specifically to follow in the footsteps of the builders, using advanced simulations and computers to make sure each facet is ready before giving their okay to move on to the next.

Since they must know the ins and outs of the vessels as they go along, professional test crew are often a font of knowledge concerning spacecraft in general. Their evaluation and testing equipment does a great deal of the work for them, but after a few years of constant system testing they tend to become very adept at judging such things themselves.

Many test crewmen later go into more direct roles in starship construction, once they have a general intuition and knowledge concerning their various systems. Starship designers, resource managers and even purchasers are often far more lucrative careers than that of the test crewman. Ever since the advent of the Foxden Evaluation Rig, the industry views much of what they do as simply hitting buttons on a console and does not believe the role deserves higher compensation.

### Dr Ursula Weiss, Foxden Industrial Works Chief Researcher

A graduate of Earth's finest private electronics training school, the Tokyo Enriched Studies Programme (TESP), Ursula Weiss is a second generation Mars citizen who garnered enough sponsorship and grant money to pay for her trip to Earth and her extensive education. She is truly gifted beyond the capacity



of most people, capable of doing theoretical mathematics in her head without as much as a pause in conversation.

At Foxden Industrial Works Ursula managed to streamline several of the shipbuilding monitoring codes on an internal level before trying to shorten and miniaturise it into a handheld format in her spare time. After increasing software production rates by 12% in her first year she was promoted to the research department where her analytical talents and expanding intellect could prosper. Two years later she had developed the FER and several other devices designed to help the ship construction process be safer, faster and more efficient.

She is occasionally hired out to Foxden worksites, where new and interesting ships are being designed and built. In that capacity she is just a visitor and an observer, using her own devices to make sure that Foxden is not wasting time or money.

#### Ursula Weiss

9<sup>th</sup> Level Human Scientist; hp 13; Init +2; Spd 30 ft.; DV 16; Atk: +4 close combat or +6 ranged; SQ Alien Technology Familiarity (Brakiri, Centauri, Minbari & Narn), Mental Agility, Peripheral Areas of Study (Knowledge (astrophysics & physics) and Technical (electronics & engineering)), Primary Area of Study (Knowledge (engineering)); Fort +3, Ref +5, Will +9; Str 11, Dex 15, Con 11, Int 18, Wis 17, Cha 16

*Notable Skills:* Appraise +4 (+6 with items associated with test researcher profession), Computer Use +16, Concentration +12, Investigate +16 (+18 if forensic physics check), Knowledge (astrophysics) +18, Knowledge (Brakiri) +6, Knowledge (Centauri) +6, Knowledge (chemistry) +8, Knowledge (engineering) +25, Knowledge (law) +8, Knowledge (Human) +10, Knowledge (Mars) +8, Knowledge (Minbari) +6, Knowledge (Narn) +6, Knowledge (physics) +18, Linguistics +12, Medical +12, Operations (piloting) +16 (+17 in spacecraft), Operations (systems) +16 (+17 in spacecraft), Pilot +14 (+15 in spacecraft), Profession (test researcher) +16, Subterfuge +2 (+4 when sabotaging), Technical (electronics) +20 (+21 in spacecraft), Technical (engineering) +20 (+21 in spacecraft), Technical (mechanical) +18 (+19 in spacecraft)

*Feats:* Data Access, Fluency (Human), Hobby (Operations (piloting) & Pilot), Spacecraft Proficiency, Veteran Spacehand, Weapon Proficiency (pistol)

### USING SHIPBUILDING CAREER OPTIONS IN THE GAME

The following are just a handful of ideas Games Masters can use to involve characters that choose these specific Profession in their games.





5# The Player Characters could be placed in charge of the staffing of a ship construction site. The purchaser has given them a specific budget to stay within and a slush fund of liquid assets to pay retention fees and the like. Will they be able to make the right choices and not resort to underhanded tactics to get the job done, or will they be forced to cut costs and corners just to stay below the red line? What if the purchaser knows they will fail, and has insured the whole project through outside shell agencies in order to double or triple his money – at the expense of the Player Characters, their crew choices and all of their reputations?

5# The Player Characters have been paid to escort a very famous yet mysterious starship designer to his rendezvous with his buyer to hand over the new spaceport orbital schematic he made for them. In route, the designer drops dead from natural causes, so it seems, and now the Players have this multi-billion credit space station schematic in their hands. Do they attend the meeting as impostor designers and get paid, or do they keep the schematic to sell to another company and claim ignorance of the designer's death? What if the designer did not die from 'natural' causes after all?

5# A group of space travelling Player Characters may find themselves in a position to use their collective skills, especially if there is a Worker in the group, to join in the construction of a spacecraft. Shipbuilding worksites can easily become campaign settings in their own right, especially with an all-Worker cast of characters.

5# A 'friend' of the Player Characters' has recently been hired to be in charge of a major shipbuilding project as one of three resource managers but is afraid that he will not be able to do the job effectively without their support and help. What they are not aware of is that the salary of the resource managers is one lump split between them, and rumours have already begun to circulate that one manager or the other is planning to kill the other two near the end of the project to take all of the cash. The Player Characters will have to be security for their friend, or else they too may become targets. What if the conspiring murderer is their friend, and he simply wants them there as his muscle?

## Shipbuilding in Babylon 5



# BARE HULLS

**So long as they keep blowing them up, we'll keep rebuilding them.**

**- Dock Foreman Calika  
Caccat, Abbai Shipbuilder**

The first and most important facet of any ship is its main hull and chassis. Without it there is nothing to attach the rest of the ship to, and the powerful void of space would rip apart any vessel held together only by external couplings. Every ship begins as a framework of bulkheads, infrastructure and stress-resistant supports wrapped in a hull 'skin' of an assortment of materials; from the crystalline frames of the Hyach and the metal-polymers of the Minbari, to the moridium plating of the Narn and Centauri.

Building a starship is a complex and time-consuming project for several dozen workers to accomplish in a set amount of time, so several patterns have surfaced throughout the years. Every race leans toward a particular style or type of hull, which makes it very easy to see why their ships turn out the way they do. Practice makes perfect, and everyone strives to reach perfection ahead of their rivals.

All this taken into consideration, there are really only two variables when choosing a hull for a starship – size and materials. These two factors become major pieces of the ship construction equation.

## HULL SIZE

The initial reasoning for choosing a particular size of craft is often simply down to the funding available, but there are also several other factors to take into consideration. The larger a hull gets, the less manoeuvrable it becomes. Larger ships have much lower Stealth ratings (unless altered in some way), handle less responsively and need more crew to operate at peak efficiency. However, larger ships also have better Armour ratings, can carry far more cargo and additional systems and have a great deal more room for powerful weapons that smaller ships can only dream of carrying.

Unlike the size categories of humanoids and terrestrial vehicles, spacecraft sizes are scaled completely different – scaled to each other rather than the normal system, also known as superscale. The size categories of vessels will determine the base cost, modifier numbers to several statistics, the base and maximum

number of construction spaces the hull will allow for and the base time it takes to build a hull of that size.

## Fine

Fine-sized starships are rarely ships at all, but more like self-contained components used in space. They are no larger than ten feet tall or wide and seldom could carry more than one passenger – if any. Spacesuited Humans are of Fine size.

## Diminutive

Diminutive-sized starships are nearly all unmanned or solo-pilot craft that most likely need to be carried in a hangar or similar holding space. Craft between ten and twenty feet long or wide fall into this category. Remote-piloted maintenance drones, small cargo pods and large EVA units fit into this category.

## Tiny

Tiny-sized starships are nearly all single or dual-seated craft that most likely need to be carried large distances in a hangar or related hold. Craft between ten and 50 feet long or wide fall into this category, which contains almost all fighters in the *Babylon 5* universe.

## Small

Small-sized starships are the short-ranged multi-passenger ships that larger ships unable to enter a planet's atmosphere often use to land upon them. Craft between 50 and 100 feet in length or width are considered Small.

## Medium

Medium-sized starships are the beginnings of what could be called 'capital' ships. These vessels are large enough (between 100 and 500 feet in length) to carry several atmospheric processors and resource stores to allow for much longer trips.

## Large

Large-sized starships are the category that most commonly seen warships and long-ranged vessels fall into. Ranging from



### Base Hull Values

Size	Base Cost	Base Time to Construct <sup>1</sup>	Base Construction Spaces	Maximum Construction Spaces	Examples
Fine	10,000 cr.	1d3+1 days	—	—	Space suit
Diminutive	150,000 cr.	1d6+1 days	1	3	Escape pod
Tiny	2,000,000 cr.	3d6+2 days	2	6	Fighter, Starfury, cargo pod
Small	4,00,000 cr.	4d6+2 days	4	12	Light shuttle, flyer
Medium	10,000,000 cr.	1d6+3 weeks	8	24	Cargo shuttle, free trader
Large	100,000,000 cr.	3d6 +3 weeks	16	48	Gunboat, freighter, Tethys
Huge	500,000,000 cr.	1d4+1 months	32	96	Cargo hauler, liner, Hyperion
Gargantuan	1,000,000,000 cr.	2d6+2 months	64	192	Sharlin, Nova, Omega
Colossal	N/A <sup>2</sup>	4d6+3 months	128	Unlimited	Babylon 5, Explorer

<sup>1</sup> Based on the normal, eight hour work shift, Earth Standard Time.

<sup>2</sup> Vessels of this size cannot be commonly purchased and require massive governmental or corporate backing.

500 to 1,000 feet in length, these ships can carry many crew and be equipped with numerous extraneous systems.

## Huge

Huge-sized starships are what the mainstay flagships of most galactic governments qualify as. Ships that are between 1,000 and 3,000 feet in length should be considered Huge and can withstand respectable amounts of punishment while being capable of carrying several systems for their counterattack.

## Gargantuan

Gargantuan-sized starships are the largest of the fleet ships, ranging from 3,000 to 6,000 feet in length or height. They are often some of the most terrifying vessels a galactic government has at their disposal and can single-handedly take on several smaller vessels at once without too much risk to themselves.

## Colossal

The Colossal size category is saved for truly immense objects and starships. Examples should no longer be measured in thousands of feet but rather in miles. Most space stations, colony ships and the like fall into this rare category.

The Base Hull Values table shows the basic time & cost that will be needed to begin the starship creation process.

**Base Cost:** This number reflects the most simple of transactions. The amount shown is the baseline cost for the most common of materials, and without having any sort of labour or design fees added in. Unless

the builder is planning on using substandard materials, this number is the absolute least the builder is going to have to pay. This number is subject to a variety of different modifiers (see Hull Materials) and will grow astronomically as the builder adds more and more systems, weapons and additional components.

**Base Time to Construct:** The formula provided for each size category is to figure out the baseline amount of time that it would take a team shipbuilders to build from component materials if given the freedom to work in a facilitated shipyard. The main factor in determining whether it will take longer is to

**Base / Maximum Construction Spaces:** Anyone can just stuff a hull with wiring harnesses and so forth but a well-designed hull can carry twice or even three times as many additional systems and applications. The Base Construction Spaces value listed is the bare minimum number of construction spaces a hull of that size category will have. Yet even the best designers in the galaxy can only do so much with the space in a given hull. The Maximum Construction Spaces value listed is the absolute maximum number of construction spaces the hull can contain. More on how construction spaces can be added to a hull (over its base value but not exceeding its maximum value) can be added is covered in the Designing Your Hull Chassis section.

## HULL MATERIALS

Unsurprisingly, ship hulls must be made of the sturdiest stuff available to the crafters, within reason. A ship made of industrial diamond would be unbelievably hard to cut and shape into the proper size without even stronger tools, which would beg the eternal question: 'Why not make the hull out of the same material as the diamond-cutting tool?' The cycle is endless.

### Bare Hulls



## Bare Hulls

So, each and every spacefaring society finds their own comfort level with a material that they consider perfect for their shipbuilding needs. So long as they feel it is strong enough, affordable to their resource budgets and usable by their industrial workers, they will use it.

That is not to say that some governments and private parties do not occasionally cut corners and use less than top grade substances in order to cut costs and increase production rates. In fact, there are countless small shipbuilding firms throughout the galaxy that thrive on making civilian craft for private buyers using the lowest grade materials they can find.

The standard hull material used in starship construction is an ultra-high density alloy cast from similar processes that create steel for planetside constructions. Each civilisation capable of creating the substance adds their own touch here and there to its composition, thereby creating a number of different standard materials used throughout the galaxy. From duraplate and titanix to white steel, these *standard materials* are roughly the same in cost, durability and workability.

This sets the standard throughout the shipbuilding industry to which all other materials are compared. Whenever building a ship without altering the hull material used, the base numbers found on the appropriate tables reflect such a standard construction.

However, there are several other levels – both of higher and lower quality – which shipbuilders can choose to use if they have the inclination, money and access to them.

The Hull Material Modifiers table is a list of the varied types of hull material categories, how they affect the hull construction process and the varying modifiers the material offers to the ship's base statistics.

Here are some narrative descriptions of what the materials categories could include, but the Games Master has final say as to where a particular hull material fits into the Hull Material Modifiers table.

*Sub-Standard:* This category is not a set type of material as much as a classification of what happens when shipbuilders use damaged salvage, black market resources from unreliable sources and so forth. Bad batches of alloy and faulty polymer chains fall into this category, and are often sold by disreputable sources looking to make a quick credit and be on their way. Most low-quality raider vessels are patched together from these materials.

*Standard:* The obvious choice for commonplace shipbuilders, standard alloys are found in any average shipyard. These materials are solid and stalwart, but are nothing special for ships that might see a great deal of combat. Most civilian ships are made from these materials, as are most freelancing vessels.

*Military-Grade Standard:* Poured, forged and tempered with the idea of absorbing enemy fire and other hazardous conditions, these materials are higher-grade varieties of the same substances that civilian ships are made from. Earth Alliance and Drazi Freehold vessels are commonly constructed of these materials, as are most ships in the various galactic navies.

### Hull Material Modifiers

Material	Cost Modifier	Time Modifier	Design DC Modifier	Armour Modifier	Stealth Modifier	Stress Modifier	Starship Example
Sub-Standard	-15%	-10%	—	-1d6 (to a minimum of 1)	-1d6 (to a minimum of 1)	+1d6	Raider battlewagon
Standard	—	—	—	—	—	—	Civilian trader
Standard, Military-Grade	+10%	+5%	+2	+4	-2 (to a minimum of 1)	-2 (to a minimum of 1)	Earth Alliance Hyperion heavy cruiser
Non-Metallic (low density)	+5 %	—	+5	+2	+2	—	Tal-kona'sha reefship
Non-Metallic (high density)	+10%	+10%	+3	+4	+4	-5 (to a minimum of 1)	Hyach Urutha Kal dreadnought
Advanced Composite	+25%	+25%	+5	+2	+8	-5 (to a minimum of 1)	Minbari Sharlin warcruiser



**Non-Metallic:** Materials that are not made of metallic alloys; plastics, crystals or many others, can be used effectively to create a lighter and stealthier hull. These substances put off far less electromagnetic wavelengths from common movement, so it is less likely that a non-metallic ship will trigger sensors that could give away its position unduly. Low-density varieties include the grown/shaped hulls of the Tal-kona'sha and the fibrous plastics of the Koulani. Higher-density materials like the carbon-based plating of Hurr battleships and the shaped-crystalline shells of Hyach vessels are even a step up from militarily-accepted metals in some cases, and are rather expensive to duplicate.

**Advanced Composite:** Like a mixing of the best parts of metals and non-metals, advanced composites truly get the best of both worlds. These materials are often the result of high-sciences and a dedication to shipbuilding that Younger Races are rarely capable of. The polymer/crystalline hulls of Minbari vessels and the Drakh silicon-skins are fantastic examples, and good reasons why these hull materials are so rare and expensive.

**Prototypical/Unique:** This category is what one-of-a-kind technologies (often reverse engineered from other hulls of this type) fall into. Living hulls designed to 'heal', advanced technologies that reflect particular wavelengths of laser, multiple-layered energies simulating hull sections – all of these are good examples of such rare hull materials. Vorlon and Shadow ships have this type of hull, as do the amalgamate skins of the White Star and the finely-tuned Techno-Mage pinnacle. These are not materials that are found commonly anywhere, and require a great deal of influence or luck (good or bad) to come by.

## DESIGNING YOUR HULL CHASSIS

Once the shipyard is picked, the hull size chosen and the materials purchased – the next step is to hand that information over to a capable starship designer (or team of designers in some cases) to have the hull actually set to schematics. Even if using a chassis that has been in existence for decades, this is a very important step for the construction of any ship that varies from existing vessels.

Starship designers make a very healthy amount of money doing their best to make room for all of the essential systems while leaving space for their employer's *extras*. For instance, a typical quandary for a designer could be to make room between the bulkheads and supporting structures for life-support while not crowding out the power supplies for the portside laser arrays. Not an easy task, to be sure.

Once this process is finished to the specifications accepted by the employer, the design schematic can be forwarded on to the builders or held for later use by employers. A design schematic has no shelf-life; once it is drawn up it cannot become useless – only obsolete as newer models emerge.

As noted with some of the different shipyards and starship design personalities covered earlier in this book, there is no set wage or fee that a starship designer has to truly stick to. Designers with very little to show for their skill or very few recommendations from governmental or commercial sources, may only be able to fetch a few thousand credits for their design schematics, while designer moguls who hire their trained teams out to militaries far and wide may make millions on a single warcruiser schematic. Conversely, there are societies (like the Minbari) who would never *pay* for a design schematic when they have an entire caste of workers who consider it their heart's calling to do such work for their people. While this is a rarity, it has happened in other governments where employed designers merely make a set wage and push out as many schematics as the government wishes them to. Basically, there is no concrete way to gauge how much a schematic is worth; it is worth what the buyer is willing to pay.

## THE BARE HULL IS COMPLETED

Once the design has been buffed and polished to the point where the purchaser is satisfied and the builders have constructed it from the proper materials, it is ready for the internal systems to be added, and then the weapons systems and frills. While these things are easily some of the most important components that a starship is equipped with in most cases, they are not as singularly important as the framework they are attached to.

Every hull, once designed and built, has a certain number of characteristics that are immutably part of the design. These basic five characteristics – Defence, Armour, Handling, Stealth and Stress – can be altered with the application of extra systems and features later in the ship construction process, but are initially standard to each size of vessel.

## Defence Value

It is harder to hit a smaller target, moving at fast speeds. While other elements can alter a craft's Defence Value – Handling being the most common – the base Defence Value of a starship is determined by its size.

**Bare Hulls**



## Profession (starship designer) (Int) Trained Only

You are trained in the drawing up of design schematics to hand over to shipbuilders so that they might create the starship. Profession (starship designer) is a white collar Profession skill.

**Check:** You can make the appropriate roll on the Designing a Starship table in order to discover how many extra construction spaces your design adds to the starship, on top of the minimum for a craft of its scale.

**Action:** The base time required to design a starship schematic is listed on the Designing a Starship table.

**Try Again:** Yes.

**Synergy:** If you have 8 or more ranks in Knowledge (engineering), you get a +2 synergy bonus on Profession (starship designer) checks.

**Special:** A character can Take 10 when designing a starship but cannot Take 20.

### Designing a Starship

Hull Size	Base Profession (starship designer) DC	Time to Finish Schematic <sup>1</sup>	Additional Construction Spaces Gained
Fine	24	1d6 hours	—
Diminutive	22	2d6 hours	+1
Tiny	20	3d8 hours	+1
Small	18	3d10 hours	+d3
Medium	16	2d6 days	+d3
Large	18	3d6 days	+d4
Huge	20	1d6 weeks	+d10
Gargantuan	22	2d6 weeks	+d20
Colossal	24	1d6 months	+d20

## Armour

While not actually adding any armour to the ship in the strictest sense of the term, the hull of a vessel does take into consideration a certain level of reinforcement from within. The larger vessels can come equipped with more durable and numerous bulkheads, therefore gaining better base Armour values than ships of a smaller size.

## Handling

Inertia and gravitic anomalies are the primary driving forces that alter how quickly a vessel can be moved from one place to another in space, but ships do have their own internal systems to aid Handling. These are of varying standards and are dependent on a combination of engine size, thruster outputs and sheer mass. Smaller ships tend to be far more manoeuvrable due to their lighter mass or more efficient engine-to-mass ratio. Larger ships have a much more difficult time manoeuvring. In space combat, agility is the best way



### Hull Statistic Values

Hull Size	Base Defence	Base Armour	Base Handling	Base Stealth	Base Stress
Fine	26	0	+4	15	5
Diminutive	18	2	+3	12	8
Tiny	14	5	+2	10	11
Small	11	10	+1	6	14
Medium	10	15	+0	2	16
Large	9	20	-1	-2	18
Huge	6	30	-2	-6	20
Gargantuan	2	40	-3	-8	22
Colossal	-6	50	-4	-10	24

to avoid being damaged, meaning that a ship's Handling modifier is usually applied to the craft's final Defence Value.

## Stealth

Everything in space gives off some form of signature wavelength that can be used to track, monitor or lock-on. Some materials are more susceptible to this than others, but one rule remains no matter what. A larger ship will generally be easier to locate in the depths of space due to the greater energy signatures they emit or reflect. This translates into larger sized vessels having much lower initial Stealth ratings, requiring them to invest in better countermeasures or jammers.

## Stress

Vessels, when pushed harder than they ought to be, can only take so much abuse before they begin to suffer damage to their superstructure. The number indicated is the DC for any Stress checks the ship is forced to make through the execution of potentially damaging manoeuvres.

Once the basic values have been determined and written down for the vessel, the shipbuilder can now move on to adding in the specifics that will make his ship his own by moving ahead to the next chapter.

## BIRTH OF THE ARBITRARY JUDGMENT

Throughout this book we will include the step by step process by which ex-EarthForce Lieutenant Gavin McCabe is making his own mercenary vessel, which he has already named the *Arbitrary Judgment* (in celebration of his questionable release from EarthForce service).

Having made many deals with IPX and several small League worlds to patrol their borders as a Trade Marshal when he has the finished vessel, all prices are omitted (they are paid for by his clientele in exchange for future services).

Gavin has chosen his ship to be of Large size, knowing that he will likely be aboard it for days at a time and up against unpredictable enemies at any given time. This should also give him room for a hangar bay, where he can place his old Delta-V fighter, while leaving him with plenty of space for weapon systems. With money not being much of a stipulation, McCabe procures a large amount of high-density carbon fibre crystalline hull plating from the Hyach. His ship will be as flashy as it will be effective. Using the masterful starship designers of Regula IV, he hands them over his resource slips and primary ideas for the *Arbitrary Judgment*.

After nine days work, the Regulans return to him with a schematic that he is very pleased with. The designer's roll was an impressive 28 – this exceeds the required DC by 7 points, so 7d4 construction spaces are added to the base construction spaces of the *Arbitrary Judgment*. This results in the starship having 32 construction spaces.

Taking his new schematic to the IPX Shipbuilding Union, he impatiently waits for a lengthy 11 weeks (3d6+3 weeks, resulting in 10; +10% because the craft is made of high density non-metallic materials) for his finished hull. At this point, with only a constructed hull, the *Arbitrary Judgment* has the following statistics:

## Arbitrary Judgment, Mercenary Gunboat

### Large Spacecraft

**Defence:** 8 (-1 size, -1 Handling); **Armour:** 24; **Handling:** -1; **Stealth:** 2; **Stress:** 13

**Construction Spaces:** 32

## Bare Hulls



# OUTFITTING THE ESSENTIALS

**No, you cannot take it for a spin! It isn't ready yet! It will be ready when it is ready and not a minute before!**

**- Engineer Am Ehr, Brakiri Shipbuilder**

Once the hull has been designed and constructed, the shipbuilders must look into making sure that the primary systems of the spacecraft are fully operational and prepared for the ship to be spaceworthy. This means several internal workings must be purchased, added and functioning before any more work can be done and the vessel finally fired up for its maiden voyage. There are several essential systems that *must* be part of any spacecraft that is going to travel through the void between the stars:

- 5# Engines (represented by a craft's engine spaces).
- 5# Electronic sensors (represented by a craft's Sensors trait).
- 5# Electronic countermeasures (represented by increases to the Stealth trait).
- 5# Computer systems (represented by a craft's control spaces).
- 5# Crew quarters (represented by a craft's crew spaces, but also including the life-support setup).

The time necessary to add the basic varieties of these systems is minimal, and should be included in the time available to build the basic hull from the previous chapter. More advanced versions of the essential systems are more efficient, more expensive and more time consuming to add to a vessel during production. Most shipbuilding associations give over-estimates as for how long a build will take to complete on purpose, giving them the room to try and up-sell better essential systems or to take unexpected mistakes into consideration.

Nowhere as expensive as weapons and additional systems that are tacked on later, essential systems are not the best way for a shipbuilder to make massive amounts of profit

unless they go to great lengths to talk purchasers into always buying the best types of components. It has a lot to do with who is providing the parts, how much is being spent and if the purchaser has any need for these advanced systems. A simple civilian patrol boat has no need for an advanced gravitic drive, just as a massive livestock cargo hauler cannot expect to make much out of an advanced military ECM suite.

Ultimately it comes down to how much the purchaser is willing to spend and to what ends they must serve. If the purchaser wants it, the shipbuilder will likely provide.

## ENGINES

No matter how large or small the spacecraft; in order to survive in the constantly shifting, pulling and pushing gravitational forces found in space they must have proper engines. The engine system of any spacecraft is a collection of directional thrusters, levelling exhausts, power regulators and fusion batteries that create the propulsion, steering and handling forces for the ship as a whole.

There are hundreds of different varieties of engine systems used in the galaxy, when speaking of their design and construction. Even so, there are actually only four real categories of engine: fusion, gravitic, biological and hybrid. These individual 'drives' have specific strengths and weaknesses over one another, but also have a variety of different applications that have been devised over centuries of space travel.

### The Exception to the Essentials

Fine-sized spacecraft (which are rarely craft at all) do not need to arrange for any of the systems in this chapter if it would take up any construction spaces. They are far too small to need much more than minor implements to be considered spaceworthy and include all of the necessary equipment to function.



### Increased Engine Power

Hull Size	Total Handling Bonus								
	1 Engine Space	2 Engine Spaces	3 to 5 Engine Spaces	6 to 11 Engine Spaces	12 to 23 Engine Spaces	24 to 47 Engine Spaces	48 to 95 Engine Spaces	96 to 191 Engine Spaces	192 Engine Spaces or more
Diminutive	+3	+4	—	—	—	—	—	—	—
Tiny	+2	+3	+4	—	—	—	—	—	—
Small	+1	+2	+3	+4	—	—	—	—	—
Medium	+0	+1	+2	+3	+4	—	—	—	—
Large	−1	+0	+1	+2	+3	+4	—	—	—
Huge	−2	−1	+0	+1	+2	+3	+4	—	—
Gargantuan	−3	−2	−1	+0	+1	+2	+3	+4	—
Colossal	−4	−3	−2	−1	+0	+1	+2	+3	+4

Every ship must choose at least one of its construction spaces to be an engine space. This may not seem like much for some ships, truthfully it is not for most, but it is the most basic requirement for any spacecraft. It covers the most elementary of system functions; directionals, propulsion and compensation. Not to mention the sheer amount of power that the engine system must put out to keep the other systems in working order. This initial engine space is what powers the spacecraft and, in game mechanics, grants the appropriate Handling score to the craft's statistics. A single engine space will do this, but adding more – which will be more expensive – will increase the vessel's ability to turn, speed up or otherwise be more mobile.

Even a spacecraft that is intended to be a stationary device – such as a space station or defence satellite – must still have this primary engine space. For them it represents not a massive set of thrusters, but several smaller pivotal jets, or the like, that keep the spacecraft in orbit or turn it slightly to face a new direction as it sits 'stationary'.

After the purchaser has decided what manner of engine system their ship will be using from the categories below, he should decide if he wishes to add extra engine spaces to increase the craft's Handling score. Refer to the Increased Engine Power table to determine how the additional

The following are the functional and statistical differences of the different types of engine drives. Each section shows their strengths and weaknesses, the cost per additional engine space of that type, and the effects they have on the ship's game statistics, if any.

### Biological Drive Engines (bio-drives)

**Cost per Additional Engine Space:** 50,000 credits.

**Extra Construction Time per Engine Space:** 1 week.

Originally thought to be impossible, biologically designed and performing engines use organic components to create propulsion in some way. There are very few species capable of creating effective bio-drive technologies, with each designing their own variety of the creation. The Tal-Kona'Sha reefships actually use strange colonies of polyps native to their world to grow, armour and even propel them through space. The terrible Shadow vessels harness the living *will* to effortlessly slide through the void. Vorlon vessels seem to have a mysterious telekinetic ability to just carry their own bodies. There is no single type of bio-drive, merely one category consisting of them all.

Bio-drives are considered the most advanced type of single-technology engine systems, as ships that are fitted with them are living in other ways as well; possibly self-healing, reflexive or even sentient. The drive itself is very expensive, and is really only available from the very rare species that has devised a working model.

With the exception of the examples above, any bio-drive engines that characters come across will be unique and probably quite magnificent – obviously requiring the Games Master to design the details of the bio-drive, and probably the vessel it is part of. Any shipbuilding facility that advertises bio-drive technology will shortly be swamped by would-be buyers, investigators and sceptics.

Any ship that is built using only Biological engine spaces gains the Biological Engine ship feature.

### Outfitting the Essentials



## Fusion Drive Engines

**Cost per Additional Engine Space:** 2,000 credits.  
**Extra Construction Time per Engine Space:** 1 day.

From the exposed fusion exhausts of Drazi warships to the massive thruster ports of the Narn, most vessels use good old traditional fusion in their engines. By directing enormous amounts of expanding energy outwards using thrusters and similar vents from a central fusion reactor, the ship propels itself with basic 'rocket physics' through the void.

While considered *crude* and inefficient by many older races due to their heavy fuel requirements, polluting exhausts and dangerous emissions, fusion power is one of the single easiest technologies to harness for effective spacecraft purposes. Dangerous for Younger Races to simply 'toy around' with, it is still often the first step a galactic species takes toward breaking away from their planet's pull and reaching out to the stars.

Fusion drive engines are very popular with commercial traffic and civilian starships due to their widespread use and the fact that repair crews everywhere know how they function. They are much cheaper than the alternatives, and far less likely to attract raiders looking for better technologies.

In game terms, the fusion drive is the basic variety of engine space to purchase. Any ship that is built using only Gravitic engine spaces gains the Fusion Engine ship feature.

## Gravitic Drive Engines

**Cost per Additional Engine Space:** 10,000 credits.  
**Extra Construction Time per Engine Space:** 3 days.

Some of the most advanced ships in the galaxy choose to use gravitics to propel – or rather pull – their vessels along. The Minbari, Brakiri and the Vree have all invested a great deal in the perfection of their own variety of gravitic drives. Essentially a very powerful gyroscopic force somewhere within the ship artificially alters the field of gravity in and around the vessel, a gravitic drive uses this malleable gravity field to make the desired direction of motion a stronger force than that of the opposite direction, thereby *pulling* the vessel forward. Sharp changes in direction are not often possible, due to the stress it could put on the hull, but very fast speeds can be reached and almost no inherent radiation is emitted.

A ship has many benefits from having a gravitic engine. Gravitic drives are extremely quiet, allowing for much more on board activity in all areas of the ship rather than simply just the commons halls. The very design of the ship can be subtly adjusted to hide the gravitic drive to keep it safe from raiders, as they would likely not be able to hear it running over

common noise and activity. The main benefit from having a gravitic drive is the automatic ability to adjust the gravitic fields within the ship to create artificial gravity from room to room. Cargo pods are easier to move when they weigh almost nothing and fighters that can be stored on walls and ceilings saves a lot of hangar space.

Any ship that is built using only Gravitic engine spaces gains the Gravitic Engine ship feature.

## Hybrid Drive Engines

**Cost per Additional Engine Space:** Varies (see Hybrid Drive Engines table).

**Extra Construction Time per Engine Space:** Varies (see Hybrid Drive Engines table).

### Hybrid Drive Engines

Hybrid Type	Cost per Additional Engine Space	Extra Construction Time per Engine Space
Fusion/Gravitic	15,000	4 days
	65,000	5 days

Some inventors just cannot leave well enough alone, they always want to have the best of all worlds, with none of the drawbacks. Hybrid engines are the closest thing that the galaxy's brightest have come up with in the case of engines. By combining the essential parts of multiple drive systems, the hybrid engine has some of the capabilities of its component systems.

Most notably seen in the engines of the White Star (Biological/Gravitic) and Victory (Fusion/Gravitic) designs, hybrid engines are the result of trying to reverse-engineer or combine multiple species' technologies into a single vessel.

Note that hybrid systems cost more than the most expensive component drive and yet have lesser overall benefits. This is because they are nearly always experimental and take a great deal of time and money to implement. Once a particular spacefaring race fully grasps and implements a superior drive system, hybrid drives are swiftly phased out in favour of the superior system.

Any ship that is built using only hybrid Biological/Gravitic engine spaces gains the Biological/Gravitic Engine ship feature.

Any ship that is built using only hybrid Fusion/Gravitic engine spaces gains the Fusion/Gravitic Engine ship feature.



## ELECTRONIC SENSORS

In the void of space there are literally millions of miles of nothing between the planets, moons, comets and other stellar bodies spinning around the epicentre of the universe. In that expanse there are tens of thousands of spacecraft traversing the spacelanes, moving through the void in the hope that they will make it to their destination. It would not take much for a spacefarer to become mired by its massiveness if it were not for the sensors of his ship.

Electronic sensors filter information from outside the vessel to a series of panels or screens inside – basically, sensors process important information about the immediate universe for the crew. How much longer a ship must keep its course, the proximity of enemy ships to its position, whether or not a landing point is safe and has breathable atmosphere – these are some of the things a ship's sensors are good for. Sensors also keep track of friendly vessels, aborting firing protocols when they drift into the line of fire. Even the smallest of fighter craft use their sensors to adjust their flight patterns according to the flood of stimuli coming in from all directions during a dogfight.

Adding the sensors is a very simple process, as most sensor accoutrements are *outside* the hull anyway. The main 'body' of a sensor suite is actually just software loaded into the ship's computer in order to run the sensor inputs all around the ship's hull. It is sensitive equipment, but built to withstand the ravages of space travel making it very difficult to injure during integration with the internals of the vessel.

Sensor suites vary from the required commercial scanners (+0) to advanced technologies that can penetrate shielded hulls

and jammers (+10 or higher). The actual size of the system is negligible, so adding the sensors system to a ship does not add any construction time, no matter how advanced the system is. The only real limiting factor is the amount of money the purchaser wants to invest in his sensors and whether or not the ship's crew will be able to use them effectively for informative scans. The Electronic Sensor Suites table shows the rating, cost and efficiency needed to run the sensors that a shipbuilder can add to his ship.

### New Order – Active Scan!

**Type:** Tactical

**Skill Check:** Operations (sensors) DC Special

**Success:** The craft focuses its sensors upon a single target, using multiple sensor methods to assess a target.

By actively scanning a planet, ship, area of debris or so on, the operator can make an Operations (sensors) skill check (if qualified, per the above table) to ask a number of questions about the target. The default DC of this check is 10 for planets, moons and other stellar bodies. If scanning anything with a Stealth score, that score is the DC instead.

If successful, the scanning operator can ask the Games Master one question plus one for every two points that his check exceeded the DC. These questions should be about the target in some way that could be deferred from electronic scanning. Some example questions could be:

- 5# What is the approximate number of life forms on board/inhabiting the target?
- 5# What sort of weapons can we detect on the target?

### Electronic Sensor Suites

Sensors Rating	Cost of System	Minimum Operations (sensors) ranks needed <sup>1</sup>
+0	2,000 cr.	1 rank
+1	11,000 cr.	2 ranks
+2	13,000 cr.	3 ranks
+3	16,000 cr.	4 ranks
+4	20,000 cr.	6 ranks
+5	25,000 cr.	8 ranks
+6	31,000 cr.	12 ranks
+7	38,000 cr.	16 ranks
+8	46,000 cr.	24 ranks
+9	55,000 cr.	32 ranks
+10 or higher	65,000 cr. (+10,000 cr. per rating higher)	40 ranks

<sup>1</sup> This is the combined number of Operations (sensors) ranks of all sensor operators on board. If a craft does not have the required number of sensor operators on duty, it only provides half its normal Sensors rating.



## Outfitting the Essentials

- 5# Is the target damaged in any way?
- 5# Are there any communications coming from the target?
- 5# Is the target environmentally hospitable to this crew?
- 5# What sort of cargo does the target have on board?

When all of the sensor readers are focussed on a single target, there is a great deal of energy that spikes, making it very difficult to keep a low profile. Performing an Active Scan increases the ship's electronic signature drastically, reducing the ship's Stealth rating by the craft's Sensors value.

Only one *Active Scan!* order may be executed per round.

**Failure:** Due to confusing readings or sensor equipment problems, inaccurate or misleading information is attained or the readings are entirely incomprehensible to the sensor operators.

## ELECTRONIC COUNTERMEASURES

While not initially thought of as an 'essential system' by early spacefarers, electronic countermeasures (ECM) suites have become a necessary evil. As wars, raids, accidents and the like have ravaged all manner of spacecraft, shipbuilders began adding ECM suites to every ship as a matter of precaution, safety and expected use.

An ECM suite generates constantly shifting and modifying encryption codes, designed to flood the bandwidths of opposing scanners. Like the polar opposite of sensors, which pick up information and decode it for use, ECM suites take unimportant information, scrambles it up and fire it out like a weapon in all directions. This can be very confusing to the sensors that pick it up, effectively hiding the ship in the 'noise'. There are many ships in the galaxy that rely on their ability to slip by the enemy undetected and ECM is the reason this is possible.

In game terms, it is the rating of the ECM suite that creates the adjusted Stealth rating of the ship. Depending on its hull size,

the materials it is crafted from and the strength of the ECM system purchased, a ship's Stealth can range from non-existent (negative numbers) to almost electronically invisible (Stealth 30 or higher). There are a number of additional factors that can come into play on top of the ECM rating, like nebula dust clouds or signature-cloaking systems. Extremely high Stealth scores can be almost always construed as a threatening feature, no matter how small or lightly armed a vessel might be.

The ECM suite that is purchased for a ship as it is being built will be added into the main software program, and will not add any time to the construction process. Cost of ECM suites, like sensors, vary drastically depending on the efficiency of the software involved. Considering the highest rated suites are almost always reserved for the military, and that any post-software adjusters are restricted at best (illegal in most cases) in some systems, a very high Stealth rating is rare, expensive and a powerful tool for the right kind of ship to have.

## CENTRAL COMPUTER

With very few exceptions, every inch of a spacecraft's cockpit, bridge or command deck is fully automated. However this does not detract from the skill required to pilot large capital ships.

Even fighters have mostly computerised control set ups, with only the most basic manoeuvres placed in the pilot's hands. Most vectored thrusts and blind manoeuvres are performed by a series of toggles or verbal commands given to the computer and then held in check by a manual device.

The main computer system of any ship is the nerve centre of the ship's many functions. It ties all other systems in one way or another to the command area of the ship. The confusing and tightly-packed controls of a fighter cockpit, the multi-panelled crash couch of a transport pilot, the room-sized bridge of a capital cruiser; these are the focal points of the main computer. Basically, 98% of a craft's functions are routed in one way or another through the central computer.

### Electronic Countermeasure Suites

ECM Bonus to Stealth	Cost	Availability	Minimum Operations (systems) ranks needed <sup>1</sup>
+1 to +5	2,000 cr. per +1 bonus	Civilian	1 rank
+6 to +10	2,500 cr. per +1 bonus	Civilian	5 ranks
+11 to +15	3,000 cr. per +1 bonus	Governmental	10 ranks
+16 to +20	5,000 cr. per +1 bonus	Military	20 ranks
+20 or more	10,000 cr. per +1 bonus	Military Black Ops	40 ranks

<sup>1</sup> This is the combined number of Operations (systems) ranks of all sensor operators on board. If a craft does not have the required number of sensor operators on duty, the ECM suite only provides half its normal bonus to Stealth.



The programming, installation, testing and securing of the spacecraft's central computer is a long process that starts in a simulation lab away from the construction site (but sometimes in the same facility). On the screens and headsets of computer technicians the individual functions and protocols of the super-intelligent computer are mapped out, making sure that it is safe and efficient. This process is normally undertaken while the ship itself is being built, after having ordered very specific wiring and placement to be laid out by the labourers at the worksite. Once the program is ready, the technicians will bring it and several backup versions to the ship-in-progress to be installed, tested thoroughly and then triple-encoded in to secure it will not be tampered with. While all of this really seems like a huge amount of time, it takes place at the same time that core construction is taking place, meaning that no additional time is necessary to add to construction time for the computer.

The central computer is arguably the single most important system on any given craft, as its loss is often the loss of nearly every other system on board. Most vessels protect their central computer's core with as much reinforcement as they can.

## Control Spaces

The central computer is always routed into a number of extremely important areas of the ship, such as the bridge, engineering hubs, security offices and so on. Any specific area of the vessel designed solely to help coordinate crew and ship functions fall into the category of control spaces. Control spaces are like the kings and queens of a chessboard – protected until the bitter end, and only foolish captains would sacrifice them for any reason. They are where the central computer is most commonly accessed or located and where the crew look to when trouble rears its ugly head.

Control spaces are decidedly expensive, costing 20,000 credits per space. However, only a small number are generally needed. Military vessels tend possess far more control spaces than civilian vessels, as the additional redundancy is vital when a lucky enemy attack happens to take out vital systems). A ship must have at least one control space.

## CREW QUARTERS

The vast majority of starships cannot function by themselves. Some have dozens, hundreds, even thousands of roles that need to be filled from time to time, which a simple computer program rarely is capable of performing without some form of command being given. The crew could be as simple as a single fighter pilot, or could include everyone from the hangar repairman to the captain himself. Every crew position, no matter the rank, has



some form of duty or responsibility on the spacecraft. Some craft may keep the same crew on board for years, maybe longer.

## Passengers

Note that some ships have a passenger capacity. Passengers are not the same as crew – they perform no work for the ship and do not require as much space as the average crew member requires. Passengers actually take up cargo space rather than crew spaces (see page 72). A passenger will generally be restricted to a single seat or bunk, while a crewman has unlimited access to the ship (or at least their assigned section). Simply put, a crew member interacts with and operates the ship or its systems – a passenger is simply carried by it. Some ships specifically design rows and rows of barracks-style quarters for sizeable numbers of passengers. These vessels can become floating cities, carrying hundreds of people in their hulls for whatever reason.

## Crew Space Allotment

In game terms, a starship's crew capacity is represented by crew spaces. Crew spaces are quite affordable at only 2,000 credits per space. They represent the entire gamut of crew-related services. Sleeping and living quarters, eating facilities, recreational and physical fitness, waste-removal; these are all a basic part of what each crew space means. A ship with two crew spaces might have a small kitchenette that dispenses dehydrated meal bars, an automated treadmill or two and a single unisex restroom. A ship with 20 crew spaces might have a full cafeteria, a gymnasium-style basketball court and species-specific facilities. Much of what each crew space means is really up to the ship designer/purchaser, subject to Games Master approval.

There are a few rules to keep in mind when deciding how many crew spaces the spacecraft will need to support its general use. The

## Outfitting the Essentials



## Outfitting the Essentials

Minimum Crew Spaces table explains the number of crew spaces the ship *must* have, dependant on its size.

### Minimum Crew Spaces

Size	Minimum number of Crew Spaces
Diminutive	0 <sup>1</sup>
Tiny	0 <sup>1</sup>
Small	1
Medium	1
Large	4
Huge	4
	10
Colossal	20

<sup>1</sup> Not having even a single crew space will mean that any crew (normally a single pilot) is contained within a separate pressurised system, such as a pressure suit. There are no amenities for crew if there are no crew spaces. While the individual crewman may have nutrition bars on him and a spare oxygen tank, the craft itself provides virtually no support for the crewman beyond shielding his body from the radiation of space.

While additional crew spaces are certainly not necessary, nearly all ships will have more crew spaces than they strictly need. This leaves room for happenstance passengers (especially if the craft has not dedicated any cargo spaces for passenger transport), captured prisoners and the like. Not to mention, having more living quarters and crew accoutrements generally raises living quality and crew morale. Some warships may not feel they have the extra room to leave vacant but not having enough is one of the most common reasons for crew mutiny – something that no ship purchaser *ever* wants to deal with.

Every crew space that a ship purchases can effectively support a number of crew members as shown on the Crew to Crew Spaces table.

### Crew to Crew Spaces

Size	Maximum number of crewmen maintained per Crew Space
Diminutive	1 crewman maintained for every crew space
Tiny	1 crewman maintained for every crew space
Small	4 crewmen maintained for every crew space
Medium	4 crewmen maintained for every crew space
Large	4 crewmen maintained for every crew space
Huge	12 crewmen maintained for every crew space
Gargantuan	12 crewmen maintained for every crew space
Colossal	12 crewmen maintained for every crew space

## Life Support Systems

To survive on any ship without individual survival gear, the vessel must have a working life-support system. Life-support is often seen solely as the atmospheric content within the ship, but there are a number of different segments of this one, singularly important system.

Life-support is not simply a set of air canisters filling the inhabited decks. It is a complex series of vents, filters, processors and intakes combined with a complex temperature-regulatory system to keep the inside of a vessel far warmer than the vacuum of space outside. It also contains a series of shielding elements to keep harmful radiation from penetrating the inhabited areas of the ship. Some ships require specific atmospheres to be piped in from a homeworld or similar source. Like most of the essential systems, the life-support systems are laid very early in a ship's construction, as most of the vessel will need to be built around it for it to be all-encompassing and effective.

The cost of the ship's life support system will depend on how many control, crew and engine spaces the craft has – see the Life Support System Costs table for details.

### Life-Support System Costs

Size of Craft	Cost	Operational Duration <sup>1</sup>
Diminutive	3,000 cr.	Ship's crew spaces in hours
Tiny	8,000 cr.	Ship's crew spaces in days
Small	12,000 cr.	Ship's crew spaces in days
Medium	30,000 cr.	Ship's crew spaces in days
Large	48,000 cr.	Ship's crew spaces in weeks
Huge	75,000 cr.	Ship's crew spaces in weeks
Gargantuan	180,000 cr.	Ship's crew spaces in months
Colossal	300,000 cr.	Ship's crew spaces in months

<sup>1</sup> Operational duration is the period of time a craft can support life comfortably before requiring to be resupplied with consumables such as fresh foodstuffs and .

### Life-Support System Cost Modifiers

Alteration	Cost Modifier
Specific Abnormal Atmosphere Needed	x1.5
Multiple Atmospheres Needed	x2
Automatic Refreshing Filters	x10

*Specific Abnormal Atmosphere Needed:* 80% of the sentient galactic species are carbon-based and use oxygen as their primary atmosphere component. In some vessels though, like those of the Gaim who use methane and the Trakallans



who use an almost ammonia-based atmospheric substitute, the filtration and routing systems need to be altered from the normal.

*Multiple Atmospheres Needed:* Vessels that are going to expect diverse alien visitors or mixed-species crews that will include members from a race that breathes a different atmosphere will need to arrange for 'safe zones' airlocked away in the ship. These areas will have miniature life-support systems of their own, allowing the alternate-breather a respite from a survival suit.

*Automatic Refreshing Filters:* Only ships that are not planning any major stops for weeks or months at a time can make use of this massive life-support system adjustment. By hardwiring in some of the most advanced air and moisture filtration systems into the existing life-support the ship can effectively recycle its own atmosphere to the point of nearly never needing to resupply (change the operational duration up one step (Hours to Days, Days to Weeks, Weeks to Months and Months to Years). This is exceptionally useful on stationary spacecraft like space stations or manned flotillas, which would have to import atmospheric supplies otherwise. The life-support systems of the massive Explorer-class and similarly unfathomably large ships automatically make use of these modifiers – explaining their high cost.

## THE SPACECRAFT IS SPACEWORTHY

Now that the spacecraft has covered all of its essential systems and is fully welded, stitched, grown or folded together into its readiness – it should be able to now take a maiden voyage. However, it is as yet unarmed and only basically armoured. Apart from non-violent methods such as negotiation or escape, the spaceship cannot defend itself.

## EVOLUTION OF THE ARBITRARY JUDGMENT – ESSENTIAL SYSTEMS

Knowing what he has in mind, Gavin McCabe outlines a few specifics for his shipbuilders: he wants to be fast and efficient, able to slip by raider defences while still being able to pick their fighter wings up at a distance, with at least one secondary command deck and room for maybe 30 passengers, prisoners or both.

The IPX shipbuilders convinced Gavin that a Fusion/Gravitic engine is the way to go, giving him fantastic speed and handling while having some of the benefits



of a Brakiri Im-Rehsa gravitic drive. They install 12 Hybrid (Fusion/Gravitic) engine spaces.

For Sensors, Gavin went with the best suite the shipbuilders had on hand, as he did not want to wait weeks for an upgraded system to be ordered and delivered. The sensor suite has a rating of +4, so he will have to make sure he hires some sensor operators with 6 or more ranks of Operations (sensors).

While technically not a governmental vessel in any way, IPX has so many extensive (and loophole-ridden) agreements with the members of the League of Non-Aligned Worlds that they gladly allowed a higher-powered ECM suite to be added to one of their newest Trade Marshal's vessels. The ECM suite provides a +13 bonus to the craft's Stealth. Again, McCabe will have to make sure he hires some sensor operators with 10 or more ranks of Operations (systems) for the ECM suite to provide its full benefit.

In addition to the alternate command deck Gavin had planned, the IPX engineers talked him into a dedicated communications room as well – claiming that it will be a fantastic addition to the *Judgment* when dealing with neutral parties. Thus, the *Arbitrary Judgment* ends up with a total of four control spaces.

Knowing that he will need at least a handful of crew and could feasibly take prisoners, save hostages or both; Gavin sets aside a generous portion of the ship for quarters, brig and food preparation, adding a sizeable five crew spaces to the ship.

## Arbitrary Judgment, Mercenary Gunboat

### Large Spacecraft

**Defence:** 12 (–1 size, +3 Handling); **Armour:** 24; **Handling:** +3; **Sensors:** +4; **Stealth:** 2; **Stress:** 13; **Features:** Hybrid Engine (Fusion/Gravitic)

**Construction Spaces:** 32 (Control 4, Crew 5, Engine 12), leaving 11 unassigned.

## Outfitting the Essentials



# ARMING YOUR VESSEL

**Illegal? No... old Dilgar turrets are totally legal in say... four, maybe even five League systems nowadays!**

**- Zrachuss, Drazi Arms Dealer**

The galaxy is a dangerous place and any spacecraft travelling through the void ignorant of that fact – or unprepared for it – is as good as space junk. Raiders, hostile aliens, agents of chaos and governmentally sponsored belligerents are willing to attack any unwary ship without a second thought.

A spacecraft looking to survive in this volatile arena must at least consider two important things – armour and weaponry. Even the pacifistic Abbai load their vessels with powerful weapon systems and effective shields in order to go about their spacefaring business unhindered by outside forces.

While not truly an *essential* system, armour and weapon systems are invaluable for nearly every vessel in the galaxy. Nearly every shipbuilding facility will have at least a few examples of such things on hand to sell, but some of the bigger, better and more powerful weaponry requires special trips or arrangements to specific galactic sources... or black market arms dealers.

Many seasoned shipbuilders keep a long list of existing arms dealers, black marketers and 'salvage' experts to get in contact with in case a 'special order' needs to be filled or fitted for their clientele. Be it a Centauri-made heavy particle array or a Pak'ma'ra fused plasma torpedo launcher – the competition for these weapons is high.

Whatever the source, reason or cost, spacecraft must be armed and armoured if they are going to survive the hostiles lurking on the spacelanes.

## ADDITIONAL ARMOUR

Spacecraft armour is actually a relatively simple addition to any craft. It takes up no real additional room, as it is literally plating on the craft – no construction spaces need be dedicated to Armour. The more armour a vessel has the better it will fare under the onslaught of enemy fire. Just that extra few inches of duraplate could be the difference between a solid impact and a full hull breach.

Any spacecraft hull has its own inherent Armour value and ability to shrug off blows due to the size and makeup of its construction but additional armouring is a task that any spacedock can do with ease. The greatest drawback to adding additional armour to a craft is that it is exorbitantly expensive. This is mostly due to the sheer amount of material that is necessary to fully plate a ship's hull. Even solo craft requires a great deal of plating for there to be any appreciable effect

There are several different versions of armouring for ships; most notably they are made from the same materials (or a very near facsimile) the hull was cast from. Depending on the substance used in the hull, this can get quite expensive and time consuming. By adding plates or sections of these compatible materials to otherwise commonly targeted areas of the ship, the spacecraft itself becomes far less likely to sustain massive damage unless hit by a powerful weapon, at which point the extra armour simply slows it down. Anyone who has heard the terrifying sound of a weapon impacting against an armoured hull can tell you that a ship's armour is worth every credit.

This is reflected in game terms by the addition of extra Armour points. Different hull types cost different amounts to armour. Obviously turning construction spaces into Armour on a high density hull will cost more than on a standard hull. The Additional Armour table shows the cost per Armour Space by the size of hull it is augmenting. There is no time element involved because, like weapon systems, the rules for retrofitting attachments (see the Shipbuilding in the Galaxy chapter) apply to Armour Spaces as well.



### Additional Armour

Hull Size	Maximum Additional Armour <sup>1</sup>	Cost per Additional Armour Point <sup>2</sup>
Diminutive	+4	1,000 cr.
Tiny	+10	2,000 cr.
Small	+10	4,000 cr.
Medium	+10	5,000 cr.
Large	+10	8,000 cr.
Huge	+10	10,000 cr.
Gargantuan	+20	20,000 cr.
Colossal	Unlimited	50,000 cr.

<sup>1</sup> Hulls made of Sub-Standard materials may only add up to 0.5 the listed amount. Hulls made of Advanced Composite materials may add up to 1.5 the listed amount.

<sup>2</sup> This is the cost to additional armour to a hull made of Standard materials. Apply the cost modifier from the Hull Material Modifiers table on page 33 for hulls made of non-Standard materials.

## WEAPON SYSTEMS

Weapon systems are the real worry of most shipbuilders. Too few? Too many? Blind firing arcs? These are the kinds of questions that will plague a shipbuilder, until the time comes when that awkwardly placed turret blasts an incoming enemy going for their own kill shot. The weapons systems of a ship are where a very high number of credits in the industry come and go. Replacements, retrofits, upgrades – weapons are big business indeed.

The invention, sale, re-sale and smuggling of weaponry collectively form a multi-billion credit industry in over a dozen systems. Arms companies like Pri-Wakat Solutions of the Brakiri and the Hak'uri'ool Ingenuity Guild of the Pak'ma'ra come up with new and better weaponry each and every year, with governments from all around sweeping in to take a bite of their new wares. Arms dealers fill their holds with powerful implements as they tour the spacedocks and shipyards, looking for that successful retrofitter or inquiring ship owner to unload the expensive components.

Some governments – like the Minbari and Vree, for instance – hoard their weapon technologies, keeping them very close to their chests in order to have an edge over their foes. These 'secret' weapons always end up on the black market through post-battle salvage or other, more *nefarious* means; nothing stays secret forever in this galaxy.

Weapon systems are as different as the people who make, buy and use them, yet every weapon system has three main parts – the

ammunition bay, the processing equipment and an emitter. Missile racks and railguns have obvious ammunition systems, and though a graviton beam's ammunition is less obvious, it is still present. The processing section of a plasma cannon is a set of magnetic coils, while it is a series of lenses in a laser cannon. The emitting portion of a pulse cannon is a simple recoiling barrel but the partially shielded hurling ports of an antimatter shredder perform the same function.

This section is dedicated to the myriad weaponry that is available to shipbuilders throughout the galaxy in some fashion or another. They are divided up into their base technology types, in the ascending order of technological advancement from simple ballistics to the devastating theoretical science of molecular weapons.

Each following subsection discusses the science behind the weapon type, then divides into the many different branches of that weapon subclass. Each weapon system has a number of statistics that are noted in their descriptions but are also compiled at the end of the chapter in one large table for ease of reference.

### Ballistic Weaponry

Like the slugthrowers of old Earth, ballistic weaponry uses a solid projectile hurled at massive speeds through internal combustion. Unlike matter weaponry, which uses magnetic coils to speed its payload to the target, ballistics have a preset charge or similar force that send a dense slug, or stream of slugs, toward the target. Since all of the energy for propulsion for a ballistic weapon is found as part of the ammunition itself and not siphoned off from the ship's energy cells or fusion reactor, there is very little drain to the ship at all. This leaves energy to be routed to other systems, like engines or steerage.

Originally created by a dozen different races, it was the Hurr who stayed with the idea of ballistic science, as they loved the ringing sound in their ears from long durations of being in the gunnery turrets. They created many different scales of these weapons, and while they lack the punch of most energy weapons and are expensive to maintain and continually reload, they are a solid weapon technology for the shipbuilder looking for more bang for less credits.

#### Light Ballistic Gun

##### Close, Offence 2, Rapid Fire 2, 1 weapon space

The favoured weapon of the Hurr Republic fighter pilot; light ballistic guns are designed with sheer mass of fire per trigger pull in mind. Streams of armour piercing slugs pour out of flare-ended muzzles with the accompanying roar of machine-gun fire and the blaze of exploding cordite.

## Arming Your Vessel



## Arming Your Vessel

Unmistakable to witness, the light ballistic gun is lightweight and easy to manufacture for anyone who understands firearm physics.

### Ballistic Gun

**Close, Offence 5, Rapid Fire 2, 1 weapon space**

A step up from the fighter-designed gun, the true ballistic gun is a large-bored weapon originally designed for use on Hurr capitol ships, but has since fallen into many raider or black market hands. The ballistic gun is capable of tremendous rates of fire, using the void of space to cool the rapidly heated barrels of the mechanism.

### Ballistic Cannon

**Long, Offence 20, Attack -2, 2 weapon spaces**

Whereas the idea behind the original ballistic weapons was the advent of massive *rates* of fire, the ballistic cannon is all about sheer *calibre*. A single ballistic slug the size of an escape pod is ejected via a massive internal blast toward the enemy, causing catastrophic impact damage when it collides with the target. However, it takes quite some time for the round to reach its target, making the ballistic cannon a tricky weapon to fire accurately.

## Missile Weaponry

The next stage in weapon technology – the rocket-assisted missile. A totally self-propelled explosive device with attached sensor targeting equipment and limited fuel supplies, each missile is a deadly payload. Using very complicated loading

and priming mechanisms in the launchers, the weapon system acquires some form of lock onto its target before sending ignition sequencing to the missile. The missile will then hopefully home in on its target and impact with devastating effect.

**Special:** Missile systems must usually be locked on before being fired. In other words, the firing craft must have successfully locked on to the target craft with a *Lock Weapons* order.

Firing the missiles ‘dumb’ (without a lock-on) is possible, but they will simply act as slow rockets in this case and have an attack penalty of -4.

### Standard Missile System

**Range as missile, Offence as missile, 2 weapon spaces**

Using magnetic and conveyed loading systems to line up each missile as it prepares to launch, the standard missile system has a rather slow and ponderous rate of fire. What it lacks in speed it makes up in variability, with several types of specialist missiles being available on the open market for those with a few extra thousand credits to spend.

Standard missile systems may only fire once per turn due to their slow loading times.

### Advanced Missile System

**Range as missile, Offence as missile, 2 weapon spaces**

After joining the Interstellar Alliance, Earth gained access to many new technologies. One of which was artificial gravity generators to be used in many of their newer models of ship.

## Weapon Reloads

Unless specifically noted that ammunition for a weapon system is extra, like the alternate missiles for missile racks, the core ammunition of a weapon system is included in the price for several engagements worth of firing. That is not to say that a Games Master could not rule that a weapon system runs dry after a prolonged conflict or exercise, or if a particularly bad skill check or attack roll would warrant a negative in-game effect.

We suggest that the roll of a natural ‘1’ on an attack roll with any weapon that requires imported ammunition can mean that the supply is out, faulty or jammed up. Regardless, it gives the Games Master the ability to start entire plots about re-arming or repairing loading mechanisms and so forth.

The following types of weapon systems use imported ammunition: Ballistics, Missiles, Matter, Bolter, Energetic Trauma (E-mines, Pulsar Mines and Packet Torpedoes only) and Antimatter.



## Missile Ammunition

The following are the types of missiles that can be fitted to fire in either the Standard or Advanced Missile Systems.

### Anti-Fighter Missile

Long, Offence 18

Compromising longer range boosters for several directional thrusters tied into the guidance system of the missile, the anti-fighter missile can home in on and track some of the most evasive of targets a capital ship must face: fighter craft. These missiles may not have warheads that cause much damage to heavily armoured targets, but they do perfectly well against lightly hulled fighters and shuttles.

**Special:** When used with the *Fighter Screen!* order, anti-fighter missiles gain a +4 bonus to attack rolls.

### Anti-Ship Missile

Long, Offence 20

This is the default ammunition for most missile systems. It is little more than a compressed standard explosive warhead atop a delivery system. Nevertheless, it packs a powerful punch.

### Flash Missile

Long, Offence 30

A development from the standard explosive warhead of the anti-ship missile, the flash missile uses a plasma-based warhead for devastating effect. A well guided shot is capable of causing massive damage to sensitive internal systems of even heavily armoured targets.

### Heavy Missile

Close, Offence 40, Attack -1

Sacrificing fuel and guidance systems for extra explosive power, the heavy missile is used primarily as a close range weapon. Their massive payloads can deal incredible amounts of damage, though the accuracy of the missile system launching it is usually partially compromised due to the missile's unwieldiness.

Besides creating a better atmosphere for their crews, it could also be used to help aid in the loading of the new advanced missile systems found in the prototype Apollo Bombardment Cruisers. This used gravitic instruments and magnetic restraints to speed up load times dramatically, allowing a much higher firing rate without losing any of the efficiency of the missiles themselves.

Advanced missile systems may fire up to twice per turn due to their faster loading times.

## Fighter Missile Rack

Close, Offence 10, 2 weapon spaces

Much smaller than the missile systems found on larger ships, fighter missile racks only have one standard type of missile that can be launched from the simple electronically-guided rack attached to the fighter. Not drastically more damaging than most other fightercraft weaponry, fighter missile racks are often programmed with better targeting than the simple 'friend or foe' systems of a fighter's main guns.

## Ballistic Torpedo Launcher

Long, Offence 38, 2 weapon spaces

One of the few forays into non-laser sciences by the Centauri, the ballistic torpedo is actually a slight misnomer. Using an on-board

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### More Missile Ammunition

#### Multi-Warhead Missile

Long, Offence 15, Attack -1, Rapid Fire 3

Basically a group of singular warheads on timed-release triggers designed to slip past enemy defences or saturate a single target with destructive power, the multi-warhead missile allows a single missile to effectively become three, hopefully getting past any defensive fire the target might be able to muster.

**Special:** Although the launching missile system does not have the capability, a multi-warhead missile counts as a Rapid Fire weapon when fired.

#### HARM (High-Speed Anti-Radiation Missile)

Long, Offence Special, Attack +2

Intended for use against the Minbari, the HARM missile specifically targets enemy sensor systems, rendering them temporarily blind with electromagnetic interference. These missiles do not carry normal payloads but instead pulse with ECM emitters when near to an enemy ship.

**Special:** The HARM reduces the targeted ship's Sensor rating by -1d6 for 1d6 rounds if it 'hits' (in truth, the missile need only approach near the target for the effect to take place).

#### RMTS (Radioactive Monitor Tracking System) Missile

Long, Offence 10

A forebear of the HARM, the Radioactive Monitor Tracking System (RMTS) missile variant was a very expensive attempt to coat a Minbari target with easily traceable materials that further attacks and scanners could home in on, eliminating one of their most notorious edges. The materials used were unfathomably expensive and the missile was nowhere near as effective as the test scientists believed it would be, which is why they were discontinued before the end of the Earth-Minbari War.

**Special:** Any ship hit by a RMTS Missile loses -1d6 to its Stealth rating for 1d6 rounds.

tracking computer and a series of internal combustions to propel themselves toward a target, the torpedoes launched from this weapon are a physical shell containing a powerful energy-reactive core. The torpedoes slam into a target just like any other ballistic shell, but then swell and explode outward when the impact superheats the core. Very powerful and very expensive, the ballistic torpedo is found only rarely in anything but important Republic warships.

### Ion Torpedo Launcher

Long, Offence 46, 2 weapon spaces

The Narn Regime has never been known for its subtlety or its inability to adapt to war. Using morally questionable resources to develop delivery systems that hurl high-yield

ionic masses, the ion torpedo was used to great success during their many conflicts with the Centauri. Not too drastically different from a common energy torpedo, the 'ion torp' is a reactive shell of energy designed to punch into an enemy's hull before releasing the ionic mass inside.

For a weapon designed with little more than vengeance in mind, the ion torpedo is a very effective tool during long ranged conflicts in which the Narn once suffered greatly against the battle lasers of the Centauri.

Ion torpedo launchers may only fire once per turn due to their slow loading times.



## Matter Weaponry

The next stage in weapon evolution beyond the invention of ballistics, matter weaponry uses the Gauss Principle to accelerate ferrous matter toward a target with tremendous force, speed and accuracy. The weapon systems are designed around an ammunition feeding system that sends the object rolling down a series of polarised magnetic coils or rings. Each magnet pulses at a precise moment, exponentially increasing the speed and force behind the shot. By the end of the accelerators, the object has enough momentum to do significant damage to anything that gets caught in its path.

The Centauri Republic and the Earth Alliance are the galaxy's leading users of matter weaponry, choosing them as efficient and destructive secondary weapons. Ammunition tends to be cheap for these systems, as they are able to basically use any piece of ferrous material as a missile.

There is a significant power drain involved whenever the matter weapon system fires, in order to power the magnetic coils, but many shipbuilders simply route more couplings to these systems from the reactor to compensate. They do leave a very distinctive electromagnetic signature behind when they fire.

### Matter Accelerator

**Close, Offence 17, 1 weapon space**

The most basic of the matter weapons, the accelerator is more or less a bin of oval-shaped ferrous slugs fitted to a feeding neck that drops them into the first primary magnetic coil. The coil pushes the slug down an extended barrel. The matter accelerator is not terribly different from the other varieties of this weapon type, but far less efficient – and therefore far less expensive.

### Matter Cannon

**Long, Offence 27, 2 weapon spaces**

The refined variety of a simple matter accelerator, the matter cannon actually uses groups of larger slugs to hurl at once. The theory is that the collective cloud of hurled matter will tear great holes in a target – which they do fantastically. Devised by the Centauri Republic early in their expansionist movements well before the Dilgar War, the matter cannon is a derivative of several pieces of Dilgar technology. Many hulls in the Centauri fleet had older versions or completely different weapon systems replaced by matter cannons after they were 'perfected'.

### Railgun

**Long, Offence 24, 2 weapon spaces**

After several years of testing and researching the true nature of the Gauss Principle and seeing what the Centauri matter cannons were capable of, Earth Alliance researchers developed the powerful and elegant railgun. Instead of firing rough shot or even groups of smooth-bored slugs, the railgun accelerates a cylindrical flechette round of super-dense material the size of a small child into the target. It lacks the collateral damage capabilities of the matter cannon, but it seems to be far more accurate over longer distances.

### Mass Driver

**Long, Offence 400, Attack –20, 8 weapon spaces**

Mass drivers were outlawed by nearly every sentient race after the Dilgar used them time and time again against 'unworthy planets' during the early 2230s. They are basically gigantic matter accelerators that use localised tractor beams to pull in drifting space debris (asteroids, starship hulks) into their gaping accelerator rings to be sped up and directed toward a target.

These weapons were never intended as anything but weapons of mass destruction. They are cumbersome and can only be fitted to vessels of Huge size or larger. They take up far more space and power from a ship than any other weapon system and are almost always built specifically into a ship at its design.

Any mobile target that is targeted by a mass driver can add the result of a Pilot or Operations (piloting) skill check to their Defence Value against the slow-moving mass driver shot. When actually fired at a planet, moon or installation, the Games Master should use the Offence rating of the weapon as a *minimum*, due to other adverse effects of having an asteroid plummet into a populated area.

Mass drivers may only fire once every three turns due to their extremely slow loading times.

## Plasma Weaponry

The first and most basic of the 'energy-based' weapon technologies, plasma was – and still is – a simple and effective way of turning any amount of volatile gas into a deadly ball of roiling liquid plasma. Although it loses much of its powerful inherent energies to the void of space as soon as it begins to launch toward a target, plasma is a deadly weapon when focussed properly.

What began as simple vented bursts of plasma being flung toward a target became fixated and



## Arming Your Vessel

condensed 'plasma bolts' (like larger versions of the ones fired by a PPG).

Once it became apparent that plasma weapons were so utterly inefficient, many races moved on to laser and particle technologies accordingly. However, the basic plasma cannon remains one of the single most used weapon systems in the galaxy. There have been newer versions, older throwbacks and brilliant inventions never imagined by early plasma researchers, but the standard versions still find their home all over the shipbuilder's market.

### Light Plasma Gun

**Close, Offence 2, Rapid Fire 4, 1 weapon space**

Not much more than directional venting from the superheated fusion exhaust, plasma guns are essentially fighter-sized PPGs for use against ships. They can fire relatively quickly without cooling off too rapidly, but concentrated fire occasionally draws too much energy off the engines and can cause a fusion blackout.

### Light Plasma Cannon

**Close, Offence 10, 1 weapon space**

### Medium Plasma Cannon

**Close, Offence 15, 1 weapon space**

### Heavy Plasma Cannon

**Long, Offence 20, 1 weapon space**

The first of the plasma weapons specifically designed to take imported gases and turn them into malleable plasma to be projected at an enemy. Helium or chromium are the most common ammunition gases due to their inherent stability, but the unexpected masters of plasma technology – the Pak'ma'ra – have learned to use methane siphoned from their toxic homeworld.

The energised core of the weapon system creates a ball of plasma to be shot at the enemy. The only drawback to this manner of attack is the sheer lack of inherent control over the shots and the serious drop in effective range with no additional propulsion other than the nature of the void and decompressing gases. Because of this, plasma cannons are Close-ranged and inaccurate but tend to be much more devastating than other weapons of their size.

### Plasma Accelerator

**Long, Offence 25, Beam 1d10, 2 weapon spaces**

Another remarkable use of mixed technologies on the part of the Centauri Republic, the plasma accelerator is basically a matter accelerator weapon system altered to handle large

gouts of superheated plasma instead of ferrous ammunition. By venting plasma stores into the magnetised chamber of the accelerator and cooling it slightly in order to form a ferrous crust around it, the entire ball of plasma can be magnetically hurled at much longer ranges with greater accuracy, efficiency and rate of fire.

### Plasma Stream

**Close, Offence 20, Beam 1d4+, 1 weapon space**

Having never ventured away from the technology of plasma for their fleet, the Pak'ma'ra Civility has made outstanding and unexpected breakthroughs in plasma use as a weapon. One of the most heralded in the 23<sup>rd</sup> Century was the invention of the plasma stream. As plasma reacts to outside stimuli like a liquid in most fashions, the plasma stream is a focussed torrent of plasma from directional ports on supercondensers.

Like a fire hose attached to a water plug, the ports spew thin but deadly ropes of plasma at a target. The plasma still cools rapidly, making the weapon another close ranged choice, but the pressure and continuous fire capabilities of larger vessels mean that it can muster massive damage potentials rather quickly on a target.

**Special:** The plasma stream depends on keeping a continuous stream aimed at its target. As such, it must be locked on (with a *Lock Weapons* order) a ship and that target lock must remain in place. The targeted craft must also remain within close range of the firing craft. For every turn the targeted craft is held in the stream, the Beam rating is increased by +1d4. Hence a spacecraft held in a plasma stream for 3 turns suffers Beam damage of 1d4 the 1<sup>st</sup> turn, 2d4 the 2<sup>nd</sup> turn and 3d4 the 3<sup>rd</sup> turn.

Due to plasma supercondenser limitations, ships that carry plasma stream weapon systems can only fire consecutively for a certain amount of time. The Plasma Stream Cooldown table explains by size of vessel how long the plasma stream weapon can maintain firing before having to wait 1d6 turns before firing the weapon again.





### Plasma Stream Cooldown

Firing Vessel Size	Rounds of Consecutive Fire before Cool Down
Tiny	2
Small	3
Medium	4
Large	5
Huge	6
Gargantuan	7
Colossal	8

### Fused Plasma Torpedo Launcher

#### Long, Offence 150, 2 weapon spaces

The highest level of plasma technology that the Pak'ma'ra have devised to date, the fused plasma torpedo launcher, or 'Fuser' as it has come to be called, is a remarkably powerful weapon capable of causing tremendous damage on several targets in close proximity to one another. Only called a 'torpedo' because of the shape of its casing, the Fuser is in fact a massive plasma-based explosive device that fills a very large area of space with an expanding cloud of hull-devouring superheated gas.

By taking a segmented shell and filling it with white-hot fusion plasma, then launching it via plasma vented rocket boosters toward a specific area of space to be detonated, the Fuser makes entire areas of space hostile for any sort of spacecraft. The Fuser is a marvel of destruction and cannot be used by any vessel smaller than Large-sized.

Fused plasma torpedo launcher systems may only fire every other round due to their slow loading times.

**Special:** If the fused plasma torpedo is fired at a fleet or wing, it splits its Offence against every single craft within that group. The one attack roll is compared to every craft's Defence Value.

## Particle Weaponry

Using something as simple as single particles of matter energised and sped up to atomic speeds, particle weaponry is a good halfway point between energy-based and matter weaponry. Single blasts, streams of particles, clouds of energised projectiles; they all fit into the category of particle weaponry. Particle weaponry does not have ammunition to speak of (using specific chemical components stored as part of the weapon itself) and contains nearly limitless power.

Particle weaponry tends to fire rapidly and accurately due to the nature of its firing mechanisms. The paths of fired particles are extremely easy to map out with computer logarithms, meaning that effective targeting computers are standard within most models. This also means that they can be almost instantly mapped out as they are fired, allowing them to be intercepted by defensive fire and shielding, which can become bothersome when facing a highly defensive targets.

Particle weaponry is a staple weapon for many races' shipbuilding programs, with such things as twin-linked particle arrays being as common as any other ship component in the majority of spacedocks and shipyards across the galaxy.

### Ultra-Light Particle Gun

Close, Offence 1, 1 weapon space

### Light Particle Gun

Close, Offence 3, 1 weapon space

### Particle Gun

Close, Offence 5, 1 weapon space

The simplest form of particle weapon, the particle gun soaks the area surrounding a matter particle with energy before blasting it toward the target. They are not capable of huge amounts of damage, are often used for defence against fighters, and are very inexpensive to purchase. Particle guns have been referred to as 'the machine guns of the energy weapon age' and can be rigged to put out a great deal of fire.

### Particle Beam

Close, Offence 6, 1 weapon space

By taking the essential idea behind a particle gun and using a number of particles in a group, the particle beam (while not actually a prolonged 'beam' at all) sends short streams of charged particles at a target with increased power and accuracy. Particle beams are the standard weapon system on dozens of races' vessels and the primary weapon of choice for civilian craft due to its fast recharge rates and reliable accuracy.

### Particle Cannon

Close, Offence 16, Beam 1d4, 1 weapon space

### Heavy Particle Cannon

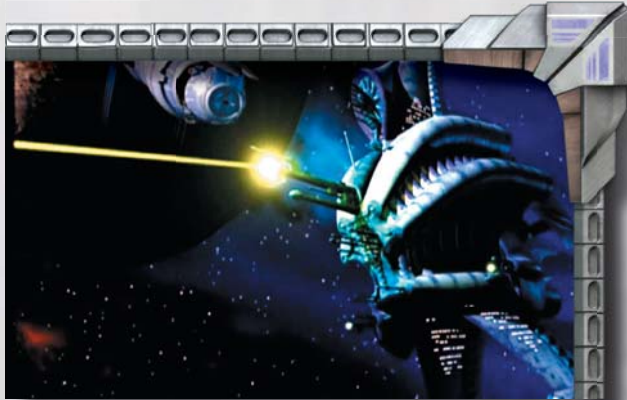
Close, Offence 27, Beam 1d6, 1 weapon space

Leave it to the Drazi to make a more aggressive variety of particle weapon from the standard particle beam. Created in the same manner as a very large particle beam emitter, each particle cannon

## Arming Your Vessel



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is attached to an extremely efficient particle charger. This mechanism supercharges huge amounts of particulate matter and feeds them into the focussed firing port of the cannon. Essentially this creates a constant barrage of charged particles, similar to that of the relentless fire of a laser. The result is a powerful cutting 'beam' that blasts away sheet after sheet of the target's outer layers.

Far too large to put on common Drazi hulls, the Freehold had designed a 'heavy' version of the powerful weapon that they have fitted to their defensive satellites and starbases. There is rumour of them trying to create a truly gigantic warship able to carry *two* of these titanic weapons but the design and build crews cannot seem to agree on anything long enough to arrange for its construction.

### Particle Blaster

**Close, Offence 8, 1 weapon space**

Another aggressive design move by the Drazi Freehold, the infamous particle blaster is to particle beams what a rainstorm is to a fire hose. Using the same amount energised particles launched in a *sheet* rather than a stream, the Drazi designed a fantastic weapon to rip enemy weapon systems right off the hulls of their vessels. Like sanding paper taking burrs off of rough wood, the particle blaster shears through external weapons and antenna. This does mean that the weapon and its heavier cousin have far less punch, but many Drazi are very happy to disarm a vessel in order to come closer and board it.

### Particle Repeater

**Close, Offence 5, Rapid Fire 4, 1 weapon space**

Originally based on old automatic ballistic technologies, the particle repeater is a cylindrical stack of particle emitters placed over a fast-feeding particle charger. Capable of throwing out a hailstorm of small charged particles, the repeater takes lightly armoured targets apart in short order. Heavier armoured or more distant targets can mostly ignore the storm of particles, but those that are caught in their field of fire can expect to be showered with shots in no time.

### Particle Cutter

**Close, Offence 15, Beam 1d6, 1 weapon space**

The Drazi answer to the sustained fire capability of the laser weaponry found on Centauri vessels, the particle cutter is a focussed beam of emitted particles designed to slice into a target and bore past the armour. Requiring a heavy power supply and unable to target enemies outside of closer ranges, the particle cutter is like a laser scalpel of starship scale. Very effective when trying to knock out internal systems, it is used by a great number of raiders that have access to Drazi weapon components.

### Scattergun

**Close, Offence 15, Array, 2 weapon spaces**

One of the simplest and most direct alterations of the particle array, the scattergun (for lack of any other term given) was designed by the Gaim Intelligence for use against the fields of fighters that tested their borders during the Dilgar War. Using an almost excessive amount of charged particles in a single fanning burst, the scattergun has a very good chance of striking even the fastest and most agile of targets. It may not be able to cause significant amounts of damage to larger vessels, but the Gaim are not known for multi-tasking when a focussed effort is better suited.

**Special:** Craft do not gain their Handling bonus to Defence Value against scattergun attacks. Craft of Medium or greater size double their effective Armour against scattergun attacks.

### Particle Concentrator

**Long, Offence 10 + Special, 1 weapon space**

A weapon designed to devour large holes in enemy targets, the particle concentrator is a deadly tool. By using negatively charged particles in tandem with streams of alternating positive ones, the weapon attracts more of the energised attacks toward targets that have already been hit by this weapon. Basically creating an energy magnet that other pre-planned concentrator shots can adhere to and cause even more damage, the Gaim can focus all their efforts on a single target until it is no longer a threat before moving on to the next. Gaim fleets will often use their hive mind to coordinate massive banks of particle concentrators at a single target, enveloping it in destructive blasts until there is nothing left.

Ships that use these weapons must really try to fit multiples of this system on board, because the weapon is at its best efficiency when many concentrators fire at once rather than over several rounds.

**Special:** Every particle concentrator after the first that hits the same target adds 10 to its Offence rating, to a maximum Offence of 50.



## Pulse Weaponry

Pulse technology was the next possible step for weapon evolution after the success of the particle array. All across the galaxy particle-based weaponry was being invented, bought, sold and stolen in every shipbuilding facility imaginable. First envisioned by the Humans, who worked on ideas spoken about highly in the Narn Regime, pulse technology was created by removing the particles from the particle array.

Instead of firing supercharged particles, pulse weaponry uses the same tracking system and firing stability to throw focused energy blasts directly at the enemy. Without having to worry about an 'unwieldy' feeding mechanism, pulse weaponry can unleash much higher firing rates without the threat of jamming or running out of ammunition.

Lacking a bit of the punch that a supercharged particle stream has, pulse weaponry relies on its rate of fire to compensate. The reliance on firing lanes and targeting protocols means that the weapon can be easily defended against by defensive fire or swift piloting, but they remain inexpensive and numerous as a consequence.

### Ultra-Light Pulse Cannon

**Close, Offence 3, Rapid Fire 2, 1 weapon space**

### Light Pulse Cannon

**Close, Offence 5, Rapid Fire 3, 1 weapon space**

### Medium Pulse Cannon

**Close, Offence 10, Rapid Fire 3, 1 weapon space**

### Heavy Pulse Cannon

**Long, Offence 15, Rapid Fire 3, 2 weapon spaces**

The essential pulse technology weapon is understandably the pulse cannon. It has become the leader in fast-firing energy weapons and is extremely simple to operate, repair and maintain. Most have twin alternating barrels to keep the component from overheating, but some instead use nitrogen or water cooling systems instead – there is little difference to the outward appearance of these weapons. Only their size and the relative power drawn from the fusion reactor, matters to most shipbuilders.

### Uni-Pulse Cannon

**Close, Offence 8, 1 weapon space**

The uni-pulse cannon is the standard fighter weapon of the Earth Alliance Starfury. Using the 'three-round burst' facility of some particle weapons but utilising pulse technology to arm it, the weapon can saturate a target with several small groupings of pulse energy rather than spreading them out for lesser effect. Best when twin-linked or used in groups, the uni-pulse cannon is among Earth Alliance's most admired scientific developments

### Gatling Pulse Cannon

**Close, Offence 15, 1 weapon space**

An advanced version of the uni-pulse cannon capable of precision attacks on ground targets, the gatling pulse cannon is the main armament of the Thunderbolt Starfury. Like the miniguns found on many of the EarthForce VTOL aircraft and land rovers, the gatling pulse cannon is a fully automatic weapon with an independent secondary power supply to sustain long bursts. Sometimes more effective than some capital vessel arms, it is no wonder why the Thunderbolt is so universally feared by Earth's enemies.

## Laser Weaponry

Laser technology is considered to be the highest form of energy-based weapon technology in most of the younger spacefaring races' arsenals. By taking a tremendous amount of energy siphoned from the fusion reactor and alternate power supplies, and focussing it through a series of lenses and chemical gases, the device can project a powerful beam of tremendous heat and longevity capable of shearing through armoured hulls like warm butter.

It was the Centauri's spread and withdrawal across the galaxy that made laser technology so prevalent in one shape or another. They left behind or traded away many of their earlier versions to many League worlds, and later – after the first occupation of Narn – it was the Regime who spread the new and more dangerous 'heavy laser' technology to some races. Among them were the Humans during the Earth-Minbari War, although it did little to aid them.

Laser technology is as advanced as most races will ever get with their weaponry, but with the efficiency that laser weapons can dish out damage at extreme ranges there is little need for much else. A solid and sustained hit from a laser weapon inflicts terrible damage to an outer hull and can sometimes even penetrate to central decks.



## Arming Your Vessel

### Light Laser Cannon

Close, Offence 10, 1 weapon space

### Medium Laser Cannon

Long, Offence 20, Beam 1d4, 2 weapon spaces

### Heavy Laser Cannon

Long, Offence 30, Beam 1d6, 2 weapon spaces

The generic laser cannon is one of the notorious flagship weapons in the galaxy. Its scything beams of coherent light energy rip apart smaller vessel with ease and sunder larger vessels into pieces if given the opportunity to do so. The focusing lenses on each races' version of the laser cannon and the gases they use to gather the energy into beam-form mark each laser as distinctively different, but the effects are generally the same.

### Battle Laser

Long, Offence 60, Beam 1d8, 2 weapon spaces

The ultimate in Centauri Republic laser technology, each battle laser weapon system has two alternating power supplies that work in tandem to create a very long ranged and intense beam of lancing light energy. Designed on many starships in banks of two, three or even four batteries, the battle laser is a terrifying reality whenever facing the forces of the Centauri. Its streaking red beams were the doom of many Narn ships during their conflicts, as it often outranged and outclassed their older weaponry time and time again.

### Combat Laser

Close, Offence 15, Beam 1d6, 1 weapon space

Rather than using the laser cannons of other races which cause massive amounts of collateral damage, the defensive-minded Abbai of the Matriarchate designed a sort of 'drilling beam' laser that causes intense internal damage to the target – hopefully knocking out integral systems early in a conflict, rather than having to destroy a target utterly. Using similar designs as their allies the Hyach, the utilitarian-named combat laser focuses a pinpoint beam to a single spot on the target rather than sweeping across many decks. The result is less overall damage, but a much higher chance to disable their target.

### Laser/Pulse Array

Long, Offence 20, Array, 4 weapon spaces

When the Earth Alliance tried to create a 'light laser' for use in large banks on their destroyers and dreadnoughts, they could not keep the housing cool enough to keep such firing up for long. They began to create a hybrid between their existing pulse cannons and laser emitters. The resulting 'laser/pulse

array' is a multi-barrelled weapon system that ties into a central power supply that can be either fired as a series of short laser beams or a stream of pulse fire from one barrel or the other. What began as an accidental use of space became standard on many of EarthForce's newest vessels. Its versatility more than makes up for its lack of 'punch' as they had originally intended.

**Special:** The laser/pulse array is an exception to the normal rule that Arrays only fire at close range.

## Harmonic Weaponry

Considered to be the true masters of laser technology, the Hyach were toying with simple beams of coherent light long before they ever decided to stretch their influence to the stars. What other races consider to be 'advanced' laser technology is common household knowledge for the Hyach designers. It was their mastery over lasers combined with what they learned from their allies the Abbai that eventually created the 'harmonic laser'.

Harmonic weaponry is solely of Hyach design and they protect it jealously. It combines sound and laser energies into a single beam of cooperating wavelengths, which weaken and then shatter the molecular bonds of a target. Harmonic weaponry is marvelled at by all who have ever seen the Hyach use it, especially the Brakiri – who covet the technology with unequalled hunger.

### Light Harmonic Laser

Long, Offence 10, Beam 1d12, 2 weapon spaces

### Medium Harmonic Laser

Long, Offence 20, Beam 1d12, 3 weapon spaces

### Heavy Harmonic Laser

Long, Offence 30, Beam 1d12, 4 weapon spaces

### Focussed Harmonic Laser

Long, Offence 50, Beam 1d12, 6 weapon spaces

Based on the Hyach's ingenious sonic/laser combination technology, the harmonic laser is their primary weapon on every craft they fly in their fleets. Ranging in size and damage potential, the harmonic laser is a devastating weapon system that combines focusing crystals and resonating chambers that are energised and funnelled into a single streak of barely-visible energy. The beam fractures and melts the target all at once, ripping apart the structure so the damage can reach deeper inside the target much faster.





The use of such high-frequency and power sonic energy creates a massive burst of ultrasonic noise that interrupts most short-range communications for a moment. This sound is inaudible to all but the most sensitive of ears. It is called *dak'a'pe* by the Pak'ma'ra (who believe it is musical in nature) meaning 'death's holy voice'.

There are many varieties of harmonic laser available to shipbuilders with enough clout to obtain them. Each one takes up a significant amount of room on a starship, as they use their own power and energy supplies and are unable to use common varieties. The proof of this is the 'focussed' harmonic laser, which is built along the spines of many larger Hyach ships, earning it the nickname of a 'spinal laser'. So much energy and gathering apparatus is required to use this weapon effectively that only Hyach-built ships are suited to do so.

## Energic Trauma Weaponry

This rather broad weapon technology category consists of weapons that may have started as another style of technology but somewhere along the line became something else entirely. Weapons that effect their targets with waves of deadly energy are designed not

for precision or careful consideration, but to utterly decimate the target. These weapon systems are not subtle, nor are they defensive in any way (no matter what the people using them might say). They are nothing but weapons of war.

### Energy Mine Launcher

#### Long, Offence 20, Rapid Fire 2, 2 weapon spaces

Designed and refined from the simple tactic of detonating old Centauri fusion cores amidst their enemies, the Narn Regime has come up with several new and improved varieties to inflict waves of hull-buckling damage across a very wide area of space. The 'E-mine' is not actually a mine at all, but an offensive tool that deprives an enemy of large areas of safe space. Bearing the same launching principle as they use with ion torpedoes and jettisoned waste, the Narn vessel hurls a pre-configured energy casing into an area of space and detonates it, washing the enemy in buffeting blasts of energy.

This is particularly effective against flights of enemy fighters or shuttlecraft – or Centauri escape pods – but tends to be far less effective against thicker armoured vessels. It is effective and spectacular to witness, but the reloading times required often mean these weapon systems are only used in an opening barrage while the Narn are taking up positions to bring other weapon systems to bear.

## Arming Your Vessel



## Arming Your Vessel

Energy mine launchers may only fire once per turn due to their slow loading times.

**Special:** If an energy mine is fired at a fleet or wing, it applies its Offence against every single craft within that group. The one attack roll is compared to every craft's Defence Value.

### Pulsar Mine Launcher

**Long, Offence 20, Rapid Fire 2, 2 weapon spaces**

As an attempt to create a faster firing E-mine, the pulsar mine is an adequate result. Using pre-arranged energy charges and a simple drop feed mechanism, this miniature energy-mine launcher can eject a series of attacks in very short order. Considering the advent of alternate firing modes for standard launchers, the Narn Regime does not use pulsar mines in many military craft. It has become a trader escort favourite, as it is very discouraging to fighter-laden raiders along the spacelanes.

**Special:** If a pulsar mine is fired at a fleet or wing, it applies its Offence against every single craft within that group. The one attack roll is compared to every craft's Defence Value.

### Packet Torpedo Launcher

**Close, Offence 25, 1 weapon space**

The Gaim have always been proponents of the logical approach to warfare, looking at every aspect of a battle before committing forces. One highly useful technique is to deny areas of space to the vessels of the enemy. The energy-based packet torpedo launcher is a great tool to do this. Using groups of negatively charged energy-packets grouped around an electromagnetic core, the Gaim designed an energy 'cluster bomb' that can be fired out of a common gauss principle tube into an area – then simply turn off the signal to the core, sending the attraction-hungry packets toward the enemies in all directions. These weapons can target several vessels at once if they are grouped together in one area, as the packets themselves are impossible to direct other than at the initial launch.

**Special:** If a packet torpedo is fired at a fleet or wing, it applies its Offence against every single craft within that group. The one attack roll is compared to every craft's Defence Value.

### Solar Cannon

**Close, Offence 45, 1 weapon space**

Quite possibly one of the deadliest weapons in the Drazi arsenal, the solar cannon is a beam of focussed and re-focussed fusion energy in a saturation-style beam format. When projected onto a target it vaporises hull plating, bathing the affected target with intense heat from the dozens of re-focussing chambers in the weapon system's accumulator.

Used on many of their larger or more specialised vessels, the solar cannon requires a frightening amount of energy to fire and must be compensated for over several minutes before and after firing.

Solar cannons may only fire once per turn due to their slow recharging times.

### Mag Gun

**Long, Offence 50, Rapid Fire 2, 4 weapon spaces**

Large even for Narn standards, the magnetic-assisted fusion drive gun or 'mag gun' is a massive weapon based on the same principle as mass drivers. Built slightly smaller and without the idea of orbital bombardment in mind, the mag gun collects energy and mass particles from its own supercondenser fusion drive, then floods them through a series of magnetic coils that speed up, flatten and turn the projectile into a spear of white-hot energy and matter that will devour a ship in seconds if given the opportunity.

These weapons are surprisingly efficient due to their attached fusion drive, but are very expensive and considered secret within the Narn Regime. It is rumoured that some have fallen into black market hands, but with the galaxy-renowned vengeful streak of the Narn it is no wonder they have not been sold yet.

### Fusion Bomb

**Close, Offence 250, 1 weapon space**

A powerful nuclear device that has been responsible for some of the most nefarious moments in galactic history, fusion bombs are merciless and unforgiving. Used to destroy the *Black Star* during the Earth-Minbari War, then again later to destroy the capitol of Z'h'dum and then once again to close the portal to the much-debated 'Thirdspace War'... fusion bombs are never used lightly.

A fusion bomb is deployed, most often on a stationary target or section of space, then triggered to explode from a safe distance away. The resulting detonation will most likely take apart any target in the vicinity or at least seriously cripple it.

**Special:** Fusion bombs automatically hit every target within close range.

### Gravitic Weaponry

Primarily researched, designed and utilised by the Brakiri Syndicacy, gravitic weaponry is simple in theory – but extremely complex in practice. The idea behind a gravitic weapon is to accelerate a segment of intense gravity toward an enemy through an escalating singularity. Basically creating



minuscule black holes as small as one atomic strand wide and firing them at the enemy, the weapon collapses a portion of the target's mass under the extreme gravity before its existence winks out.

The hardest part to manufacture of any form of gravitic weapon is the directional mechanism. What the Brakiri have discovered is that it is possible to move the weapon's payload along in the same manner as a gravitic drive moves a ship – but on a much smaller scale. By increasing the gravitic pull directly in front of the weapon's emitter, the shot should carry forward into the void at massive speeds, allowing inertia to do the rest. The only difficulty is making sure the weapon's payload can last long enough to reach the target.

Gravitic weapons are difficult to manufacture and require several monitoring and stabilization conduits to connect to a ship's gravitic drive which all of these weapon systems must be attached to.

### Graviton Pulsar

**Close, Offence 15, 1 weapon space**

The first of the long-ranged gravitic weapons that the Brakiri manufactured, the graviton pulsar is a row of several gravitic bolt emitters positioned and internally timed to fire in rapid succession. Not only do these shots stagger in order to create a wider field of fire, but they are mathematically pinpointed to travel in each others' gravitic wake, carrying the shots farther while using far less of their own energy to do so. This means a longer range and a better impact ratio of the shots themselves.

### Grav Cannon

**Long, Offence 40, Beam 1d8, 2 weapon spaces**

Taking advice from their belligerent neighbours, the Drazi, the Syndicracy eventually began to make larger and more energy-consuming gravitic weapons to fit to their hulls. The grav cannon is the first of these weapons, using a much bigger series of conduits to shoot a greater singularity toward the enemy. The larger anomaly can absorb a sizable portion of hull and material before its hunger is sated and blinks out of existence. Unlike a laser, that moves from side to side, the grav cannon sends its payload deeper in the vessel to hopefully rip apart sensitive internal systems before collapsing.

Grav cannons may only fire once per turn due to their slow recharging times.

### Graviton Beam

**Long, Offence 30, Beam 1d6, 2 weapon spaces**

The Brakiri's first and only attempt at a sustained gravitic weapon, the graviton beam is an effective counterpart to many medium laser batteries in the galaxy. Sending dozens of grav cannon-sized anomalies at a single enemy in rapid succession can have the same slicing effect that a common laser does, but requires vast energy stores to map and project the attack. It takes several minutes – a lifetime in any heated battle – to recharge and re-plot the next shot, even with the help of the gravitic engine's monitoring computer systems.

Graviton beams may only fire once per turn due to their slow recharging times.

### Gravitic Lance

**Long, Offence 25, Beam 1d6, Rapid Fire 3, 2 weapon spaces**

After seeing the effectiveness of the scything beams of the Shadows time and time again during that war, the Brakiri wanted to create a weapon that could keep their warships well out of the range of such terrible weaponry as their smaller vessels moved in to engage. Trying a dozen different ways to extend range, the best way they found was to chain a series of larger graviton singularities together in a sustained firing pattern. Effectively, the first few gravitons 'tow' those behind them farther and farther, leaving the rest to smash into the target for remarkable damage.

### Graviton Shifter

**Close, Offence Special, 2 weapon spaces**

The Brakiri once realised that their advanced gravitic drives could lend a hand to nearby ships that had lost access to their own – which immediately spawned the idea of using them against the enemy. Originally thought to be used for capture and towing, a brilliant fleet commander named Tor Okar ordered all of his towing gravitics to have their polarities reversed. The resulting gravitic projector could literally *push* enemy ships into disarray. The abrupt movement would ruin firing lanes, alter trajectories and throw crewmen to the floor all over the ship. It was ingenious, earning the commander a place in Brakiri wartime history and opening a whole new avenue of possibilities for the Syndicracy's armada.

**Special:** Any ship struck by a gravitic shifter has the benefit of one of the following orders cancelled: *Angle for Maximum Effect*, *Defensive Position*, *Escort Defence!*, *Extreme Measures!* or *Grapple*. If the target ship is under the effect of more than one of these orders, randomly determine which is cancelled. If the target ship is not currently under the effect of one of these orders, it instead loses its Handling bonus to Defence Value.



### Gravitic Mine Launcher

**Long, Offence 30, 2 weapon spaces**

After seeing the spectacular results of what happens when accidentally fired graviton singularities strike one another, the Brakiri saw a great opportunity. Designing twin streamlined graviton emitters to throw a pair of unstable anomalies at converging angles to bisect at a specific place, the gravitic mine was born. When the two hungry anomalies meet each one tries to devour the negativity of the other a thousand times in a millisecond, and instead they collapse in a powerful release of alternating gravitic energy that will lash out at any target caught in the surprisingly large field of destruction.

**Special:** If a gravitic mine is fired at a fleet or wing, it applies its Offence against every single craft within that group. The one attack roll is compared to every craft's Defence Value.

### Antimatter Weaponry

Almost solely the area of expertise of the Vree, who learned how to harness and utilise antimatter from salvaged Minbari hulks found around the 12<sup>th</sup> Century (according to the Earth calendar), antimatter weaponry is advanced well beyond the understanding of most other races. These weapons are deadly, powerful and far more than what a normal vessel should even try to handle as standard weaponry.

Antimatter is a highly-energised substance held in retention by anti-gravitic shielding, then propelled by a number of means toward the target; which conversely, is made of *matter*. When the two substances collide and instantly react, the resulting chain reaction is explosive and quite satisfying to the Vree. It may leave very little behind for salvage, but the Vree do not commonly care about *inferior* technologies. If it was worth keeping, their antimatter armaments would not have destroyed it so utterly.

### Antimatter Converter

**Close, Offence 10, Antimatter, 1 weapon space**

The original source for all of the Vree's antimatter research, the antimatter converter is an older weapon used by some Minbari warships during the last Shadow War. The weapon is a powerful atomic energy emitter that essentially breaks the bonds of matter, reverses their polarity and creates a tiny amount of antimatter which then reacts explosively. The Minbari seldom use it any longer due to its extremely short range compared to their normal armaments and because of the random and uncontrollable nature of antimatter.

When the Vree obtained several of these weapons, they miniaturised them and made them integral to many of their weapon systems. They also made much larger varieties

for use in secret 'antimatter forges' where they create the massive supplies they use for ammunition in their numerous warships.

### Light Antiproton Gun

**Close, Offence 5, Rapid Fire 2, 1 weapon space**

### Antiproton Gun

**Close, Offence 10, Rapid Fire 2, 1 weapon space**

While not *technically* an antimatter weapon, the antiproton gun serves as the basic building block for them. Antiprotons are essentially one half of true antimatter, targeting and nullifying the protons in whatever matter they touch. Projecting them via the standard antiproton gun or its rapidly firing lighter version is a simple affair of gravitic pushes and magnetic-coil aiming mechanisms. The antiproton gun creates a small bundle of antiprotons from surrounding stores, wrapping it in a neutrally-charged field before hurling it toward the awaiting protons of the enemy.

### Antimatter Cannon

**Close, Offence 20, Antimatter, 1 weapon space**

The truest form of antimatter weapon the Vree have created, the basic cannon is little more than a turreted emitter attached to a large antimatter storage and loading chamber and protected by a number of gravitic fields. When the fields are fluctuated in a certain manner, the antimatter is fired at amazing speeds toward a target. Eventually the field surrounding the antimatter is no longer able to be sustained and the payload will be able to react accordingly upon impact.

### Antimatter Shredder

**Close, Offence 15, Antimatter, Rapid Fire 4, 1 weapon space**

One of the most frightening sights an enemy of the Vree can ever see is the neon green hailstorm of antimatter bolts that the dreaded shredder emits. Using a very large amount of antimatter, pushing it through a rapidly changing gravity 'net' to carve it into tiny antimatter fragments as it showers a nearby target with the deadly rain, the antimatter shredder can erode even the largest of vessels into component parts in seconds.

The antimatter shredder has only one true drawback – its massive ammunition usage. Even the largest of the shredder-equipped vessels can only launch so many barrages, as the antimatter batteries of the vessel will soon be dry.

**Special:** The antimatter shredder will run out of its ammunition after the first shot on a natural roll of a '1' or a '2'.



## New Weapon Quality: Antimatter

Antimatter weaponry is very dangerous to the ship that carries it, as any antimatter-based weapon that has any of its weapon spaces destroyed will automatically lose the entire weapon system. This represents the entire weapon being shut down as the antimatter ravages the weapon components.

Due to the nature of the gravitic fields that are required to contain antimatter, any ship equipped with antimatter weaponry is required to have at least as many gravitic engine spaces as antimatter weapon spaces.

Despite these drawbacks, weapons with the Antimatter quality have one very useful bonus: If a barrage including antimatter weapons hits a target craft and causes construction space damage, roll 1d6 for every antimatter weapon. Every '6' rolled in this manner destroys a construction space in a random structural area of the ship (roll separately for each '6').

### Antimatter Torpedo Launcher

**Long, Offence 20, Antimatter, 2 weapon spaces**

The longest ranged weapon in the antimatter arsenal, the antimatter torpedo is essentially just that; a propelled shell carrying a large portion of antimatter in a gravitic warhead. The torpedo is launched towards an enemy, homing in on harder to strike vessels and impacts. The crumpling of the thin torpedo shell should deactivate the containing field, projecting the antimatter warhead deeper into the vessel so as to not waste any of it eating through outer hull layers.

## Neutron Energy

Mastered solely by the Minbari, neutron energy is a type of fusion energy that is completely without charge – positive or negative. This means that the entire focus of the beam is to shatter the thinnest bonds of matter rather than having to steer towards one charge or the other when fired. Insanely powerful, utterly foreign to all but the most brilliant minds of the galaxy and capable of inflicting horrendous amounts of damage at very long ranges; neutron energy is the epitome of the Younger Races' weapon technologies as far as outright damage is concerned.

Once nicknamed 'star dragon's fire' by the first Centauri who ever saw Minbari vessels turn their weapons on their foes, neutron weaponry is utterly unavailable to anyone except the unfathomably rich... and even then, only those who have the right contacts can actually acquire this technology. Having it might seem like a good idea, but when Minbari vessels come to collect their stolen

property with ships decked out with neutron lasers and fusion cannons it quickly becomes a fatal mistake.

### Light Fusion Cannon

**Close, Offence 10, 1 weapon space**

### Fusion Cannon

**Close, Offence 20, 1 weapon space**

Using a very small amount of neutron energy to lance across space and cut small portions of enemy vessels off from their hulls, the fusion cannon is the Minbari's standard point-defence weapon and is rarely used to decimate larger vessels. They are utterly accurate and take up very little space for the range and damage they can dish out to the enemy.

### Neutron Laser Cannon

**Long, Offence 50, Beam 1d8, 2 weapon spaces**

### Improved Neutron Laser Cannon

**Long, Offence 60, Beam 1d10, 2 weapon spaces**

The real monster when it comes to neutron weapons, the neutron laser cannon is capable of emitting a powerful laser-like beam that will eradicate nearly any target that gets caught in its path for long. Focussing the neutron energy through alternately positive and negatively charged refracting and re-combining crystal lenses before roaring out of the huge laser emitters; each beam is capable of cutting entire sections of enemy ships off like a blade through a melon.

## Arming Your Vessel



## Arming Your Vessel

The weapon systems themselves are huge, only fitting to some of the largest ships in the Minbari fleet. This was never a drawback, as the Minbari had little care as to whether or not their vessels were too large. As time moved on, and the Shadow and Drakh Wars came upon them and their ships were too large to outmanoeuvre their powerful enemy. They redesigned the weapon slightly and created a less cumbersome variety based on the much smaller version found on some variants of Whitestar and Whitestar WSC-2 of the Interstellar Alliance.

### Electromagnetic Weaponry

Electromagnetic energy is decidedly difficult to manage into a cohesive weapon. It is erratic, potentially dangerous and extremely short-ranged by all common sciences of today.

There are a few who have come up with abysmally short-lived and unremarkable applications of EM energy by the Younger Races, but the most spectacular examples of true electromagnetic mastery is only found in the living ships of the Vorlons. Their technology concerning the creation, manipulation and wielding of electromagnetic energy is a marvel beyond the minds of the 23<sup>rd</sup> Century. More electromagnetic weaponry is covered later, in the CLASSIFIED chapter of this book.

Other than the minor uses found here, the realm of electromagnetic weaponry is still a work in progress for those still risking experimentation with it.

#### Shock Cannon

**Close, Offence 5 + Special, Electro-Pulse, 1 weapon space**

The closest thing to a solid advance in true electromagnetic weaponry created by the Minbari, the shock cannon is little more than a fusion cannon armed with a different set of charge accumulators. It projects a blast of wild and short-lived EM energy toward an enemy in the hope that it will cause internal system damage instead of the more permanent damage that a neutron laser or fusion cannon would cause.

**Special:** The shock cannon may cause more physical damage than an Electro-Pulse gun, but its EM pulse is not as effective. The DC of the Operations (systems) check to resist the shock cannon's Electro-Pulse effect is only DC 15.

#### Electro-Pulse Gun

**Close, Offence Special, Electro-Pulse, 1 weapon space**

Unique to the Minbari, the electro-pulse gun emits electromagnetic static that can rip through defensive screening or armour and disrupt an enemy ship's vital control systems. The effects on a small craft, such as fightercraft is devastating. The weapon unleashes its charge with surprising accuracy, but

cannot harm a target in any way other than by frying electrical systems and disabling key components – making the target an easy target for the firing ship's own escorts.

#### Burst Beam

**Close, Offence 10 + Special, 1 weapon space**

1A strange place to find an electromagnetic weapon of any sort is in the hands of the commonly destructive and vengeful Narn. Even so, the burst beam is a short-ranged EM pulse emitter that is carried by a stream of energised particles – cutting small holes in an enemy in order to soften a system long enough to let the EM energy rip its circuits apart. Too short of a range for anything but the expedient assault and police cutters of the Regime, the burst beam has become a raider cell favourite for those that can afford it.

**Special:** The burst beam may cause more physical damage than an Electro-Pulse gun, but its EM pulse is... erratic. The DC of the Operations (systems) check to resist the burst beam's Electro-Pulse effect is only DC 10. However, if effective, it will neutralise 1d4 control spaces (rather than the usual one)

### Molecular Weaponry

The absolute highest form of weapon technology in the galaxy, molecular weapons are almost indescribable in how they take apart a target. The primary example of what molecular weaponry is capable of can be found in Shadow ships. The energy is actually formed not of a charge or of a polarity, but instead of the actual *force* that binds atoms together.

The Minbari (and later the ISA with their permission) are the only Younger Race to ever harness even the smallest portion of molecular energy. It is a foreign science that terrifies even those that harness it for just nanoseconds in a lab. More on Shadowtech and molecular weaponry can be found in the CLASSIFIED chapter later in this book.

#### Molecular Pulsar

**Close, Offence 20, Rapid Fire 2, 1 weapon space**

Designed to be basically a 'molecular array' for use on Whitestar cruisers, the resulting weapon uses the same atomic principle of the Minbari molecular disruptor, but instead staggers out the energy in a stream of much smaller bursts in an attempt to spread the weapon's damage over several targets if necessary. The molecular pulsar fires extremely rapidly when triggered, but each shot is far less devastating than others of its ilk. Even the largest of enemy vessels will eventually succumb to the constant barrage of hull-cracking molecular energy blasts. This weapon is more like a series of very powerful jabs rather than the haymaker of some other molecular technology examples – like the dreaded Shadow slicer beam.



## THE WEAPONS SYSTEMS MASTER TABLE

*Name:* The weapon's official designation.

*Range:* Whether or not the weapon is close or long ranged. Unless noted, a long ranged weapon can still be used at close range.

*Offence:* The effective Offence of a weapon of this type.

*Qualities:* What inherent special qualities the weapon possesses. Note that it is worth checking the weapon's description for any additional rules that it may use.

*Weapon Spaces:* Every weapon system takes up a number of construction spaces when fitted to a craft.

*Origin:* The government, species or faction that designed, owns or controls the distribution of the technology, if any.

Some technologies are so widespread that their origin no longer matters for game purposes.

*Influence Check:* Many weapons are specifically rare technologies from one government or another, meaning that it takes some wheeling and dealing to acquire the weapon. There are two values here, the first is the common Influence check required to gain access to purchase a single weapon system of this type; the second is the adjusted Influence check for members of that government. If there is no difficulty listed for the first number, it means that the weapon system cannot be purchased legally outside of the species that created it. 'Auto' means that there is no check, it is too common an item to warrant one.

*Cost:* How much the weapon system costs to buy on the open market.

*Black Market:* How much the weapon system costs to buy on the open market.

### Weapon Systems

Name	Range	Offence	Qualities	Weapon Spaces	Origin	Influence Check	Cost	Black Market
<b>Ballistic Weaponry</b>								
Light Ballistic Gun	Close	2	Rapid Fire 2	1	Hurr Republic	15/auto	8,000 cr.	16,000 cr.
Light Ballistic Gun	Close	5	Rapid Fire 2	1	Hurr Republic	15/auto	12,000 cr.	24,000 cr.
Ballistic Cannon	Long	20	Attack -2	2	Hurr Republic	25/10	60,000 cr.	120,000 cr.
<b>Missile Weaponry</b>								
Standard Missile System	As missile	As missile	—	2	—	20	75,000 cr.	—
Advanced Missile System	As missile	As missile	—	2	Earth Alliance	30/20	200,000 cr.	1.2 million cr.
Fighter Missile Rack	Long	10	—	2	—	15	30,000 cr.	—
Ballistic Torpedo Launcher	Long	38	—	2	Centauri Republic	30/20	250,000 cr.	1.25 million cr.
Ion Torpedo Launcher	Long	46	—	2	Narn Regime	25/15	350,000 cr.	1.4 million cr.
<b>Missile Ammunition (for Standard and Advanced Missile Systems)</b>								
Anti-Fighter	Long	18	—	—	—	15	1,250 cr. each	—
Anti-Ship	Long	20	—	—	—	10	1,000 cr. each	—

### Arming Your Vessel



## Arming Your Vessel

Flash	Long	30	—	—	—	20	3,000 cr. each	—
Heavy	Close	40	Attack -1	—	—	20	4,500 cr. each	—
Multi-Warhead	Long	15	Rapid Fire 3	—	Earth Alliance	20/15	2,400 cr. each	9,600 cr. each
HARM	Long	Special	—	—	Earth Alliance	25/15	8,000 cr. each	32,000 cr. each
RMTS	Long	10	—	—	Earth Alliance	30/25	80,000 cr. each	320,000 cr. each

### Matter Weaponry

Matter Accelerator	Close	17	—	1	—	20	50,000 cr.	—
Matter Cannon	Long	27	—	2	Centauri Republic	25/10	85,000 cr.	425,000 cr.
Railgun	Long	24	—	2	Earth Alliance	30/20	65,000 cr.	325,000 cr.
Mass Driver	Long	400	Attack -20	8	Centauri Republic	35/25	1.5 million cr.	6 million cr.

### Plasma Weaponry

Light Plasma Gun	Close	2	Rapid Fire 4	1	—	10	10,000 cr.	—
Light Plasma Cannon	Close	10	—	1	—	15	45,000 cr.	—
Medium Plasma Cannon	Close	15	—	1	—	15	150,000 cr.	—
Heavy Plasma Cannon	Long	20	—	2	—	20	300,000 cr.	—
Plasma Accelerator	Long	25	Beam 1d10	2	Centauri Republic	30/20	250,000 cr.	1.25 million cr.
Plasma Stream	Close	20	Beam 1d4+	1	Pak'ma'ra	25/15	350,000 cr.	1.05 million cr.
Fused Plasma Torpedo Launcher	Long	150	—	2	Pak'ma'ra	35/25	1.75 million cr.	5.25 million cr.

### Particle Weaponry

Ultra-Light Particle Gun	Close	1	—	1	—	10	3,000 cr.	—
Light Particle Gun	Close	3	—	1	—	15	6,000 cr.	—
Particle Gun	Close	5	—	1	—	17	9,000 cr.	—
Particle Beam	Close	6	—	1	—	17	15,000 cr.	—
Particle Cannon	Close	16	—	1	Drazi Freehold	20/10	120,000 cr.	360,000 cr.
Heavy Particle Cannon	Close	27	—	1	Drazi Freehold	25/15	200,000 cr.	600,000 cr.
Particle Blaster	Close	8	—	1	Drazi Freehold	20/10	20,000 cr.	60,000 cr.
Particle Repeater	Close	5	Rapid Fire 4	1	Drazi Freehold	25/auto	36,000 cr.	108,000 cr.
Particle Cutter	Close	15	Beam 1d6	1	Drazi Freehold	25/20	220,000 cr.	880,000 cr.
Scattergun	Close	15	Array	1	Gaim Intelligence	25/auto	150,000 cr.	750,000 cr.
Particle Concentrator	Long	10	—	2	Gaim Intelligence	25/auto	125,000 cr.	625,000 cr.



**Pulse Weaponry**

Ultra-Light Pulse Cannon	Close	3	Rapid Fire 2	1	—	20	20,000 cr.	—
Light Pulse Cannon	Close	5	Rapid Fire 3	1	—	15	29,000 cr.	—
Medium Pulse Cannon	Close	10	Rapid Fire 3	1	—	20	62,000 cr.	—
Heavy Pulse Cannon	Long	20	Rapid Fire 3	2	—	25	420,000 cr.	—
Uni-Pulse Cannon	Close	8	—	1	Earth Alliance	20/15	25,000 cr.	100,000 cr.
Gatling Pulse Cannon	Close	15	—	1	Earth Alliance	25/20	110,000 cr.	440,000 cr.

**Laser Weaponry**

Light Laser Cannon	Close	10	—	1	—	10	40,000 cr.	—
Medium Laser Cannon	Long	15	Beam 1d4	2	—	15	250,000 cr.	—
Heavy Laser Cannon	Long	30	Beam 1d6	2	—	25	650,000 cr.	—
Battle Laser	Long	60	Beam 1d8	2	Centauri Republic	35/25	1 million cr.	4 million cr.
Combat Laser	Close	15	Beam 1d6	1	Abbai Matriarchate	25/15	120,000 cr.	480,000 cr.
Laser/Pulse Array	Long	20	Array	4	Earth Alliance	25/20	300,000 cr.	1.2 million cr.

**Harmonic Weaponry**

Light Harmonic Laser	Long	10	Beam 1d12	2	Hyach Gerontocracy	35/15	400,000 cr.	2 million cr.
Medium Harmonic Laser	Long	20	Beam 1d12	2	Hyach Gerontocracy	35/15	600,000 cr.	3 million cr.
Heavy Harmonic Laser	Long	30	Beam 1d12	2	Hyach Gerontocracy	35/20	900,000 cr.	4.5 million cr.
Focussed Harmonic Laser	Long	50	Beam 1d12	6	Hyach Gerontocracy	35/25	1.2 million cr.	6 million cr.

**Energic Trauma Weaponry**

Energy Mine Launcher	Long	20	Rapid Fire 2	2	Narn Regime	20/15	380,000 cr.	760,000 cr.
Pulsar Mine Launcher	Long	20	Rapid Fire 2	2	Narn Regime	25/20	450,000 cr.	1.35 million
Packet Torpedo Launcher	Close	25	—	1	Gaim Intelligence	30/auto	180,000 cr.	900,000 cr.



## Arming Your Vessel

Solar Cannon	Close	45	—	1	Drazi Freehold	30/20	750,000 cr.	1.5 million cr.
Mag Gun	Long	50	Rapid Fire 2	4	Narn Regime	35/25	1 million cr.	3 million cr.
Fusion Bomb	Close	250	—	1	—	25	950,000 cr.	—
<b>Gravitic Weaponry</b>								
Graviton Pulsar	Close	15	—	1	Brakiri Syndicracy	20/15	190,000 cr.	570,000 cr.
Grav Cannon	Long	40	Beam 1d8	2	Brakiri Syndicracy	30/25	850,000 cr.	2.55 million cr.
Graviton Beam	Long	30	Beam 1d6	2	Brakiri Syndicracy	25/20	600,000 cr.	1.8 million cr.
Gravitic Lance	Long	25	Beam 1d6, Rapid Fire 3	2	Brakiri Syndicracy	25/20	1.1 million cr.	3.3 million cr.
Graviton Shifter	Close	Special	—	2	Brakiri Syndicracy	25/20	800,000 cr.	2.4 million cr.
Gravitic Mine Launcher	Long	30	—	2	Brakiri Syndicracy	25/20	300,000 cr.	900,000 cr.
<b>Antimatter Weaponry</b>								
Antimatter Converter	Close	10	Antimatter	1	Minbari Federation	30/15	220,000 cr.	880,000 cr.
Light Antiproton Gun	Close	5	Rapid Fire 2	1	Vree Conglomerate	30/auto	24,000 cr.	96,000 cr.
Antiproton Gun	Close	10	Rapid Fire 2	1	Vree Conglomerate	30/auto	38,000 cr.	76,000 cr.
Antimatter Cannon	Close	20	Antimatter	2	Vree Conglomerate	40/auto	600,000 cr.	3 million cr.
Antimatter Shredder	Close	15	Antimatter, Rapid Fire 4	2	Vree Conglomerate	40/auto	1.2 million cr.	6 million cr.
Antimatter Torpedo Launcher	Long	20	Antimatter	2	Vree Conglomerate	40/auto	320,000 cr.	1.6 million cr.
<b>Neutron Weaponry</b>								
Light Fusion Cannon	Close	10	—	1	Minbari Federation	30/15	40,000 cr.	400,000 cr.
Fusion Cannon	Close	20	—	1	Minbari Federation	30/15	60,000 cr.	600,000 cr.
Neutron Laser Cannon	Long	50	Beam 1d8	2	Minbari federation	35/20	750,000 cr.	7.5 million cr.
Improved Neutron Laser Cannon	Long	60	Beam 1d10	2	Minbari Federation	40/25	1 million cr.	10 million cr.
<b>Electromagnetic Weaponry</b>								
Shock Cannon	Close	5 + Special	Electro-Pulse	1	Minbari Federation	30/15	65,000 cr.	325,000 cr.
Electro-Pulse Gun	Close	Special	Electro-Pulse	1	Minbari Federation	25/10	75,000 cr.	425,000 cr.
Burst Beam	Close	10 + Special	Electro-Pulse	1	Narn Regime	30/25	60,000 cr.	180,000 cr.
<b>Molecular Weaponry</b>								
Molecular Pulsar	Close	20	Rapid Fire 2	1	Interstellar Alliance	40/25	350,000 cr.	1.4 million cr.



## DEFENSIVE SYSTEMS

While a wise Earth man once said 'the best defence is a good offence' there are some shipbuilders and purchasers in the galaxy who disagree – they would rather have better defences hands down. Races like the Abbai, Brakiri, Humanity and the Pak'ma'ra have all but mastered the use of defensive fire, chaff rounds, flak cannons and the like in order to soften incoming attacks or stop them altogether.

Armour protects a ship from taking too much damage once it has already been hit, whereas defensive measures hopefully keep the ship from being hit at all. The idea being that if no weapons can get through the defences, it will rarely need to worry about armour stopping damage at all.

Any ship can add defensive measures just as they would any other type of weapon or ship feature retrofit. Once in place the defensive component will act like a separate weapon system that can be fired as an 'Interceptor' or as an offensive tool. They are not designed to cause massive amounts of damage, so they are rarely useful against anything except fighter craft if used offensively.

Active defences are commonly interceptor turrets or shield generators and require crew attention to work properly, but are generally effective against most types of weapons. Some weapons ignore Intercept ratings altogether (such as those with the Beam XdX trait).

Also, mounting a defensive system in a turret (see page 70) costs an additional 100% (rather than the usual additional 25%) of its cost. The defensive system will take up twice as many weapon spaces, as usual.

### Defence Grids

The simplest form of defensive measure is that of the point defence grid, or just defence grid for short. These swivelled turrets are attached to extremely intelligent computing software designed to predict the incoming path of enemy fire and fire salvos. The resulting impact is supposed to stop the shots, or at least redirect them enough away from their intended target, and cause less damage.

A ship's defence grid is also useful to a certain degree to dissuade enemy fighter and assault craft from nearing the vessel. Defence grid emplacements rarely cause significant damage to a target but are enough to deter fighter craft from moving too close.

### Point Defence Gun

**Close, Offence 1 or Intercept 3, 1 weapon space**

The most basic form of defensive turret is the point defence gun. A single turreted barrel that sends charged particles directly at any incoming fire, it is rather inadequate by current standards. Even so, it is inexpensive and takes up very little space.

### Flak Cannon

**Close, Offence 3 or Intercept 6, 1 weapon space**

When one thinks of 'defensive' the Hurr are rarely that springs to mind. Even so, in the early design of their fast firing ballistic arrays they came up with a rather ingenious little device they have called the flak cannon. The first prototype ballistic arrays fired *too* fast and would repeatedly strike their own shells in mid-flight making clouds of shrapnel that were good for little else but getting in the way. It was when a Hurr gunner noticed an enemy missile detonate early due to the cloud of shrapnel that the flak cannon found its true role.

### Mk I Interceptor

**Close, Offence 3 or Intercept 10, 1 weapon space**



**Arming Your Vessel**



## Arming Your Vessel

### Mk II Interceptor

**Close, Offence 3 or Intercept 15, 1 weapon space**

The first advance in point defence, the interceptor array is a multi-barrelled particle gun that fires streams of charged particles at incoming fire much in the way its predecessor – the point defence gun – does, except better. It has more advanced computing software, a faster firing rate and adjustable recoil to catch shots faster.

While the original Mk I Interceptor has become widespread in the galaxy, there have been some internal advances of the device in the research labs of the Earth Alliance. They have made bigger and better versions of the old standby, some of which are equally as powerful against fighters as they are against incoming ordinance. Getting through a newer model of EarthForce cruiser's interceptor energy web is difficult and rumour says they are still in development of bigger, better and more efficient versions.

## Advanced Defence Systems

Not all defensive fire is targeted directly at an incoming attack. Simply by filling the path of the attack with a variety of matter, an attack can be thwarted as it hits the matter

blocking its path. Several races believe that this manner of defensive interception is far more effective than the more standard version. Why waste ammunition and targeting software when a single particulate cloud will suffice for several minutes?

Note that all advanced defence systems are fired as part of a *Fire Interceptors!* order. Once fired, their Intercept rating is applied against every attack that targets the vessel, for the remainder of the round.

### Active Chaff

**Close, Intercept 10, 1 weapon space**

A refillable deployment system for positively-charged chaff particles (energised pieces of matter that are refractive in design) the active chaff dispenser showers a large area of space whenever triggered. The chaff particles are too light and flimsy to do much at all to solid matter or particle weapons but their crystalline shape and internal sensors baffle, bend and diffuse energy better than anything else.

This advanced defence system gives the ship the Active Chaff (X) special quality. Note that Active Chaff *only* applies its Intercept rating against Beam attacks and other attacks that normally ignore interceptors.

### Defensive Systems

Name	Range	Offence	Intercept	Weapon Spaces	Origin	Influence Check	Cost	Black Market
<b>Defence Grids</b>								
Point Defence Gun	Close	1	3	1	—	10	6,000 cr.	—
Flak Cannon	Close	3	6	1	Hurr Republic	15/10	9,000 cr.	27,000 cr.
Mk I Interceptor	Close	3	10	1	Earth Alliance	20/15	30,000 cr.	120,000 cr.
Mk II Interceptor	Close	3	15	1	Earth Alliance	25/20	45,000 cr.	180,000 cr.
<b>Advanced Defence Systems</b>								
Active Chaff	Close	—	10	1	Earth Alliance	20/15	Varies <sup>1</sup>	Varies <sup>1</sup>
Pak'ma'ra Interceptor	Close	—	10	1	Pak'ma'ra	20/15	40,000 cr.	160,000 cr.
Particle Impeder	Close	—	10	1	Abbai Matriarchate	20/15	50,000 cr.	200,000 cr.
<b>Shield Generators</b>								
Gravitic	Close	—	15	1	Abbai Matriarchate	25/20	400,000 cr.	1.6 million cr.
Harmonic	Close	—	25	2	Hyach Gerontocracy	35/20	800,000 cr.	4 million cr.

<sup>1</sup> Active chaff dispensers cost 30,000 cr. and have enough capacity for 4 rounds of chaff. Each additional 7,000 cr. increases the capacity by 1 (to a maximum capacity of 8). The actual rounds of chaff must be bought separately, as they are extraordinarily expensive, usually 3,000 cr. per round. Triple these costs for black market prices.



## Pak'ma'ra Interceptor

### Close, Intercept 10, 1 weapon space

The Pak'ma'ra are undoubtedly the most confusing species in the League of Non-Aligned Worlds at times. They often come off as dim-witted and ignorant, yet their scientists in the Civility can make plasma technology do things that even the Minbari raise eyebrows at. One of those things was the invention of the device known as the Pak'ma'ra interceptor. Designed to be a fighter deterrent, the interceptor belches thick strands of plasma in a tightly swirling cloud, which quickly cools and wraps around incoming fighters like a web.

What the Pak'ma'ra were not intending, but were quick to put into practice, is that cooling plasma is very dense and can potentially slow down or altogether stop incoming attacks that try to cross it. Sustained energy weapons tend to just barrel through without much of a problem but common particle or pulse weaponry is blocked time and time again by the strands.

Pak'ma'ra interceptors may also use their Intercept rating as an Offence rating, but only when used as part of a *Fighter Screen!* order.

## Particle Impeder

### Close, Intercept 10, 1 weapon space

Masters of defence, the Abbai created the particle impeder many decades ago and have put it to satisfying use ever since. These systems hurl expanding particle clusters combined with fragmented matter into the expected path of enemy fire. Hostile weapon payloads burn out trying to get through the fog of particulate matter, softening the blows severely, leaving little to be absorbed by the ship itself. When combined with their patented gravitic shield generators, there is little wonder why the Dilgar were turned away time after time.

Particle impeders do not work like normal interceptors. An impeder's effect is automatically applied against every incoming barrage in their arc – there is no need for an Operation (gunnery) check. Each additional impeder fired in the same order after the first adds +2 to the effective Intercept rating of the impeding screen.

Weapons have their individual Offence in a barrage ignored (as long as their individual Offence is less than the impeder's Intercept rating).

*For Example: An Abbai Tiraca suffers a barrage from a Drazi Sunhawk. All of the Sunhawk's weapons hit in the barrage, consisting of a particle cutter (Offence 15), twin-linked particle blasters (Offence 12) and twin-linked particle beams (Offence 9), for a Total Offence of 36.*

*Fortunately, the Tiraca had the foresight to fire one of its particle impeders. As the twin-linked particle beams have an Offence of less than 10 (the impeder's Intercept rating), it is ignored, reducing the Total Offence to 27.*

Beam weapons, and other weapons that ignore interceptors, also ignore impeders.

## Shield Generators

Truly advanced defences, shield generators are drastically different to true *shielding*. Shielded ships have a constant bubble or second skin around them, ships equipped with shield generators are instead simply ready to project partial canopies to reflect, absorb or otherwise halt incoming attacks. They require massive amounts of power to work properly and cost a small fortune per generator (which only cover a single arc of the ship) but they rarely let the buyer down when needed.

Note that all shield generators are activated as part of a *Fire Interceptors!* order. However, once activated, their Intercept rating is applied against every attack that targets the vessel, for the remainder of the combat.

A shield's Intercept rating is automatically applied against every incoming barrage in their arc – there is no need for an Operation (gunnery) check.

Also, due to the precise nature of what a shield generator must accomplish, they are utterly non-functional inside the atmosphere of any planet, moon or other structure. The swirl and ebb of the air particles disrupts the perfect logarithms of the generators' firing mechanisms.

Beam weapons, and other weapons that ignore interceptors, also ignore shields.

## Gravitic Shield

### Close, Intercept 15, 1 weapon space

Originally designed by the defensive-minded Abbai, then also taken on by the Brakiri, gravitic shield generators are very effective deterrents to any hostile weapons fire. By forming an angled funnel of very high gravity, most attacks simply slow down to the point of stationary and burn out well before they ever get close enough to harm the ship. Missiles detonate, particles simply fade away and matter collapses in upon itself upon striking the field of massive force. High-output energy beams or sustained firing weapons can push past the buffer with little trouble, as the generators are simply unable to keep up the sort of output required to keep up with such a barrage.





### Harmonic Shield

**Close, Intercept 25, 2 weapon spaces**

There is not a true interception technique designed by the Younger Races that can stop or even slow down high-energy beams like lasers... save one. The Hyach, masters of laser technology, created a powerful wavelength-based shield that essentially balances the wavelengths of attacking energies. For every wavelength in the spectrum, there is an opposite wavelength that brings the two into balance – the nullification point. Through their advances in harmonic laser technology, the Hyach designed several safety measures that would cancel out laser wavelengths if experiments got out of hand or became unstable.

It was these safety measures that were then experimented on, creating a powerful shielding force that can actually cancel out a large portions of energy. It does nothing for weaponry that uses solid matter or charged particles, but with the addition of defensive turrets their threat is lessened as well.

Note that the Harmonic Shield *only* applies its Intercept rating against Beam attacks and other attacks that normally ignore interceptors.

### ARRAYS, LINKED WEAPONS AND OTHER MATTERS

While all the basic weapon systems have been described, all races have come up with a number of ways to conjoin and implement those weapons systems.

#### Arrays

Arrays follow the principle that where one gun is good, four or more are better. Arrays are relatively inaccurate and grossly energy consumptive but they really do pack a lethal punch.

Purchasing a weapon as an array doubles its cost. The weapon will also take up twice as many weapon spaces as normal. The weapon's Offence is doubled and it gains the Array special quality. Weapons with the Array special quality may only fire at close range, regardless of the constituent weapons' listed range.



## Linked

Linking weapon systems is relatively easy. The weapon systems must be identical and must be mounted in the same arc. Linking weapon systems costs 10% of the combined cost of the weapons to be linked. This cost mostly covers the finely-tuned motors and electronics that will govern the linked weapons. The reasons for this cost and expenditure is to ensure that the linked weapons always fire in an extremely tight sequence and at precisely the same spot.

Once two or more weapon systems are linked, they become a single linked weapon system. One weapon becomes the 'lead' gun which fires first in the sequence. This provides its full Offence. Each weapon linked to the lead weapon adds half its Offence.

*For Example: A single particle beam has an Offence of 6. A twin-linked particle beam has an Offence of 9 (6+3). A tri-linked particle beam has an Offence of 12 (6+3+3).*

## Turrets

The costs and weapons spaces in the Weapon Systems table assume that the weapon is being placed in one of the four normal fire arcs (Fore, Starboard, Aft or Port). If it is placed in a turret, a weapon requires a great deal more space and additional mechanical equipment.

Mounting a weapon system in a turret costs an additional 25% of its cost. The weapon will also take up twice as many weapon spaces as normal.

## EVOLUTION OF THE ARBITRARY JUDGMENT – WEAPONS & ARMOUR

Taking a great deal of credits and luck with him, Gavin goes to a relatively 'trusted' arms dealer on Praxis IX. It means he will likely be paying black market prices, but with what he is trying to get his hands on it makes sense.

Hoping that his piloting skills will keep him out of harm's way, he only chooses to add a single layer of additional armour covering his hull, knowing he will need the room for his weapons order. Sitting down with the dealer, he peruses a few options then asks for the 'special' selection. It takes a little persuading in the form of a few thousand Centauri ducats but McCabe gets to see some of the more exclusive systems he was hoping for...



Having seen first hand what a Drazzi solar cannon can do, McCabe decides that his main weapon will consist of a twin-linked system in the Fore fire arc. Realising he will also need something with a little more range, he installs a standard missile system too... but to his dismay, he can only locate the regular anti-ship missiles. Still, he may be able to locate some more specialised missiles later in his career.

While discussing the implementation of his purchases, he notes a bulky particle beam array that is going cheap. The reason for this is that it is turret mounted and will take up a great deal of space on any craft. Nevertheless, McCabe decides it is a good addition to the *Judgment* – he could use a good all-round defensive weapon system.

Paying a massive sum from his IPX account, he waits – never too far from his ship – for the solar cannon parts to be delivered. Once satisfied, he sets course to the neutral shipyard near Jericho system, where he knows he will get a good deal on the fitting of his new toys, and maybe some extras. At this point, after becoming an armed and spaceworthy vessel, the *Arbitrary Judgment* has the following statistics:

## Arbitrary Judgment, Mercenary Gunboat

### Large Spacecraft

**Defence:** 12 (–1 size, +3 Handling); **Armour:** 25; **Handling:** +3; **Sensors:** +4; **Stealth:** 2; **Stress:** 13; **Features:** Hybrid Engine (Fusion/Gravitic)

**Construction Spaces:** 32 (Control 4, Crew 5, Engine 12, Weapons 8), leaving 3 unassigned.

### Fore Arc Weapons

- 5# Twin-Linked Solar Cannon (Close, Offence 67, 2 weapon spaces)
- 5# Standard Missile System (Long, Offence 20, Anti-Ship, 2 weapon spaces)

### Turret Weapons

- 5# Particle Beam Array (Close, Offence 12, Array, 4 weapon spaces)

## Arming Your Vessel



# FINISHING TOUCHES

**Of course you'll be happy with the new jump drive. It's one of the new slimline models we bought off the Yolu last year. No returns, of course, but I'm sure you will be happy with it.**

**- Curtis Neff, IPX Shipyard Trader**

Just having a spaceworthy ship that can defend itself is rarely enough in the eyes of the shipbuilder, or the purchaser for that matter. Many spacecraft will have room set aside specifically for cargo, or perhaps that fast escape shuttle for when things get a little too rough? Will the ship be able to create its own hyperspace portals? Can you land on a planet, or will you always use a shuttle because of your inability to survive re-entry?

These are the questions that a shipbuilder must look at before he is fully finished with his vessel. We call these additional components and alterations collectively 'finishing touches'. They are not integral to the function of the ship, but might help define or redefine its use.

There are three types of finishing touches that a shipbuilder will want to consider – cargo, hangar, defensive measures and ship add-ons.

- ⑤ *Cargo Spaces* are the areas of the vessel dedicated to the loading, holding, protection and restraint of goods imported onto the ship for one reason or another.
- ⑤ *Hangar Spaces* are the areas used to launch, house, service and dock auxiliary craft – most often shuttles or fighters.
- ⑤ *Ship Add-Ons* are defined as the collective group of components that give new special qualities or features to the vessel.

## CARGO SPACES

Cargo space is a lot more than vacant rooms or some strung up cargo netting. The holding and safe transport of items is a big part of many industries and the backbone of shipping throughout the galactic market.

Defined cargo facilities on a ship denote safety webbing, restraining harnesses and protective foam, monitored climates and similar facets of good storage. There are almost always extra tools and the like stored in these areas for lifting, moving, opening or closing the crates, boxes or other packaged goods that the ship might carry. Facilities are also nearly always equipped with focussed security sensors to help combat smuggling and contraband – or to prove its existence.

In game terms, any number of construction spaces can be turned into cargo spaces. This is not a very difficult process and does not require too much monetary expenditure. Each cargo space represents a certain amount of physical room the ship has delegated to the proper keeping and care of additional cargo. Like engine spaces, cargo spaces are a *representation*

### Cargo Spaces

Size of Vessel	Cargo Capacity per Cargo Space	Cost per Cargo Space
Fine	50 lb.	50 cr.
Diminutive	100 lb.	100 cr.
Tiny	500 lb.	300 cr.
Small	1 ton or 1 passenger	500 cr.
Medium	5 tons or 5 passengers	1,000 cr.
Large	10 tons or 10 passengers	1,500 cr.
Huge	50 tons or 50 passengers	2,000 cr.
Gargantuan	100 tons or 100 passengers	3,500 cr.
Colossal	500 tons or 500 passengers (or more)	5,000 cr.



of what manner of room the ship has for additional cargo. These spaces are not defined as having a set amount they can carry overall, but are rather worth more room the larger the vessel is that purchases them. The Cargo Spaces table explains the cost and capacity of the cargo spaces based on the size of the spacecraft.

The number of cargo spaces a ship has will define how much cargo can store *safely*. That is not to say that a ship without proper facilities could not choose to pack every empty square foot of their ship with a lucrative business deal and hope for the best. Any ship of Small size or greater can choose to add additional cargo by sacrificing open areas of the ship to the imported goods. Between the extra weight, poor distribution of mass and common areas being clogged with storage, the ship will be running under drastically lessened efficiency.

#### Passengers

Passengers are not the same as crew. Any character who is in a cargo space is deemed not to be part of the ship's crew and can have no effect on the running of the ship. They are, in this sense, just like cargo. Note that passengers take up cargo spaces at a minimum rate of one ton per passenger – while the passenger may not weigh one ton, their accumulated needs will take up an equivalent amount of space.

The figures in the Cargo Spaces table are a *minimum*. Any ship looking to transport passengers at anything other than a hitchhiking level will need to at least double the number of cargo spaces allocated to carrying passengers, if not more. Earth Alliance space liners, for example, have roughly six times as many cargo spaces allocated to transporting passengers as is strictly necessary. This is because space liners are designed with a modicum of comfort included and also transport a great deal of the passengers' personal goods and effects. Centauri Octurions can expect to house major political or royal figures in their guest suites, despite being military vessels. Thus an Octurion will usually have 20 or 30 cargo spaces dedicated to the care of only two or three passengers!

#### Livestock

Even more cumbersome than passengers, livestock will generally take up five times as much space as a



passenger (5 tons). Creating massive amounts of waste and filth, these pens could quickly become filthy and disease-ridden over a lengthy trip. Since air on a ship is recycled and re-used, that would be a danger for everyone on board. Adjusting a life-support system to compensate for just such cargo can be quite expensive due to the sheer number of vents and filters that are added.

## Unassigned Spaces and Cargo

A ship can also use any unassigned construction spaces for makeshift storage. These unassigned spaces can only store half the normal cargo capacity and cannot transport livestock or passengers. These makeshift cargo areas tend to lack adequate pressurisation, radiation shielding and are sometimes entirely open to outer space.

## HANGAR SPACES

There are a dozen reasons why a spacecraft would want to have auxiliary craft on board. Military carriers must house fighters. Cargo runners often want support against enemy breaching pods. Massive craft need some way to get onto planets without buckling their hulls. Some might simply want the option to fly something smaller when they have the inkling! No matter the circumstance, these spacecraft will require a hangar.

An operational hangar is complete with all of the modern abilities to upkeep auxiliary craft, launch them when necessary and accept them once again when their flight is over. Military hangars tend to be functional and numerous, with several dedicated

## Finishing Touches



## Finishing Touches

### Hangar Costs and Limits

Size of Vessel	Auxiliary Craft per Hangar Space	Cost per Hangar Space
Fine <sup>1</sup>	—	—
Diminutive <sup>1</sup>	—	—
Tiny <sup>1</sup>	—	—
Small	—	—
Medium	One Diminutive vehicle	25,000 cr.
Large	One Tiny vehicle or two Diminutive vehicles	40,000 cr.
Huge	One Small vehicle or two Tiny vehicles or four Diminutive vehicles	60,000 cr.
Gargantuan	One Medium vehicle or two Small vehicles or four Tiny vehicles or eight Diminutive vehicles	75,000 cr.
Colossal	One Large vehicle or two Medium vehicles or four Small vehicles or eight Tiny vehicles or 16 Diminutive vehicles	90,000 cr.

<sup>1</sup> These spacecraft are too small to have hangar spaces. They may still house Fine craft, however, as the method of egress is usually through the airlock in this case.

exit and entrance points for fast sorties. Ships that expect to see a high number of travellers will build extra large hangars to accommodate visitors and their vessels.

The actual design of the hangar bay will be greatly influenced by the intended use of the auxiliary craft within. A fighter-laden combat ship will no doubt include lesser repair facilities and re-arming protocols, and an assault boat will likely have several loading platforms for breaching pods. Refuelling and system checks are standard and a good technician rarely ever leaves a well-used hangar.

The features that a designer must be aware of when setting up his vessel are cost, capacity, traffic limitations and size limitations. Obviously a designer or retrofitter will have to be aware of the boundaries on any component, but with a hangar miscalculations could cost auxiliary pilot lives. The Hangar Costs and Limits table covers two of those hangar aspects, cost and size limitations. It shows how much each hangar space costs and what is the largest size of vessel the hangar could possibly hold.

In game mechanics, a ship's launch hangars will be made up of a number of hangar spaces. Each hangar space purchased can house a fixed number of auxiliary craft (dependent on the auxiliary craft's size). Every auxiliary craft must be housed using hangar spaces – if there is not space in a ship's hangar for an auxiliary craft, it cannot be housed by the parent ship.

A ship that has precisely the required number of hangar spaces to house its auxiliary craft will have a launch rate of (1) – this is the number listed next to the Craft entry of a ship's statistics. This launch rate can be increased by adding more hangar spaces – see the Increasing Launch Rate table. The launch rate cannot exceed the number of auxiliary craft a ship holds.

### Increasing Launch Rate

Size of Vessel	Additional Hangar Spaces
Medium	+1 to launch rate per additional hangar space
Large	+1 to launch rate per additional hangar space
Huge	+2 to launch rate per additional hangar space
Gargantuan	+2 to launch rate per additional hangar space
Colossal	+4 to launch rate per additional hangar space

*For Example: A Huge craft houses two Light Shuttles (Small) and six Starfurries (Tiny). It requires five hangar spaces to do so and has a launch rate of (1). By adding five hangar spaces, the craft can add +5 to its launch rate, giving it a rating of (6).*

Note that many ships, especially larger ones, will have a greater number of hangar spaces than is strictly necessary for their personal auxiliary craft. This is normally because such craft can expect to receive greater numbers of foreign auxiliary craft (such as cargo loaders from a starbase) in its hangars, in addition to its usual complement. Military craft often have redundant hangar bays, for use in emergencies or when the main hangars have been destroyed. Also, extra hangar space is often the first place where a captain will store excess cargo.

### Alternate Hangar Types

The many species of the *Babylon 5* universe are nothing if not inventive. A regular airlock-style hangar with room to manoeuvre and realign is not good enough for several of them, so the creation of several new styles of keeping/launching auxiliary craft have permeated the shipbuilding industry.



Some are not exactly ‘hangars’ as it were, but for the sake of ease they are all noted as such for shipbuilding purposes. They are rather specific, have their own benefits and drawbacks, but are always an option for the experimental purchaser. The following are a handful of these special hangar types. Each entry has a cost modifier (applied to the cost of each hangar space), a narrative description of what the modified hangar is and what benefits and drawbacks it applies to the vessel.

### External Docking Rings

**Cost: x0.75**

Some ships are equipped to release and retrieve their auxiliary craft without opening a single hangar door. Using huge airlock-ridden rings or tubing attached to the main cabins of the ship, pilots can crawl up and into their fighters docked *outside* the ship! There are only a few vessels in current and steady production that use this somewhat odd method of scrambling fighters.

Any ship that purchases external docking rings gains the External Docking Ring special quality. This means that they automatically have the maximum launch rate (launch rate is equal to the number of auxiliary craft). However, the difficulty of *Return to Base* orders performed by the auxiliary craft returning to the parent ship is increased to DC 15. Also, the ship suffers a –2 penalty to Stress checks while it has any auxiliary craft docked on its external docking ring.

### High-Capacity Storage

**Cost: x1.5**

There are many ships that never need extremely fast launch rates or access to a high number of fighters at any given time. The Tal-Kona’sha first designed a hangar that could hold more fighters by stacking them in almost hive-like storage garages up and down the hangar. Having the extra craft accessible is good, but it takes a much higher amount of time to launch them.

Any ship that purchases high-capacity storage gains the High-Capacity Storage special quality. This means that each hangar space may effectively store up to twice its normal allowance of auxiliary craft. However, the craft may only have a maximum launch rate of (1).

### Skyhook Catapult

**Cost: 35,000 cr.**

After the Drazi built the galaxy’s first ‘super heavy’ fighter they quickly discovered that it did not fit in their common hangars. They quickly designed a

sort of ‘launcher’ rigged to the surface of their faster vessels. The ‘skyhook catapult’ literally hangs on the fighter (or other auxiliary craft) until it is time to launch, then aims in the relevant direction like any other weapon. Then it fires, flinging the craft far outside of normal hangar capabilities and giving it a massive speed boost for a few seconds.

Any ship that purchases skyhook catapult gains a single hangar space and the Skyhook Catapult special quality. This single hangar space is dedicated to the launch (and retrieval) of a single type of Small or Tiny spacecraft. A craft launched from a skyhook catapult (using a *Launch Fighters!* order as normal) may enter the battle up to one range band removed from its parent ship. However, the difficulty of *Return to Base* orders performed by the auxiliary craft returning to the parent ship is increased to DC 20.

## STARSHIP ADD-ONS

There are literally thousands of items that shipbuilders may want to add on to their vessel during or after initial construction. Jump drives, atmospheric seals, escape pods; there are huge gamuts of devices and components that can help define the spacecraft – or simply make it more interesting and pleasing to the owner and his crew.

The following section is a long list of components and devices that can be built-into or added on to any vessel that meets the device’s prerequisites. Each entry will have the following information:

**Name:** The name of the add-on.

**Cost:** How much the add-on will cost the shipbuilder. Some professional shipbuilders might add to this cost due to labour and the like of installing it, or simply to make a higher profit.

**Minimum Size:** The minimum sized spacecraft that can possibly accept the add-on. Some items are just too large for smaller spacecraft.

**Maximum Size:** Some starship add-ons may only applied to smaller ships; this will be noted here.

**Influence Required:** The Influence check required to obtain the add-on.

**Benefit:** The narrative description and game mechanics that are involved with having the add-on as part of the vessel. Any special characteristics, ship features, special orders available and the like will be explained here.

## Finishing Touches



## Finishing Touches

### Afterburners

**Cost:** Varies

**Minimum Size:** Tiny

**Influence Required:** Earth Military (DC 15), Pak'ma'ra (DC 15), Criminal (DC 25)

Some small spacecraft are fitted with powerful afterburning engines that either dump fuel directly into the combustion chamber or otherwise temporarily overload their reactors to achieve massive amounts of thrust for a short time. Larger vessels can have similar apparatus fitted to their fusion reactors, making them capable of extreme surges of forward momentum.

This add-on gives the ship the Afterburners special quality.

### Atmosphere Capable

**Cost:** Varies

**Minimum Size:** Fine

**Maximum Size:** Large

**Influence Required:** Any Economic (DC 15)

By magnetically (or gravitically) sealing all internal systems from the ravages of outside forces and layering the hull in such a fashion that re-entry to a planet is survivable, most

spacecraft can be made atmospheric capable. Spacecraft that are atmospheric capable, or just 'atmospheric' to spacers, have the ability to enter the atmospheres of any planets they encounter. They are able to land on the planet's surface and will be treated as aircraft while in the atmosphere.

This add-on gives the ship the Atmosphere Capable special quality.

### Automated

**Cost:** 20,000 cr.

**Minimum Size:** Fine

**Maximum Size:** Medium

**Influence Required:** Any Economic (DC 12)

A common adjustment made to Fine and Diminutive maintenance craft, this add-on replaces the need for crew with either a complex remote control rig or central processing computer. Whatever the method, Automated craft are clumsy and slow compared to manned craft. However, they can often enter areas which would be lethal to manned spacecraft and therefore remain popular with repair technicians.

This add-on gives the ship the Automated special quality.





### Autopilot Suite

**Cost:** 40,000 cr.

**Minimum Size:** Tiny

**Influence Required:** Any Economic (DC 15)

Not every ship has the luxury of a co-pilot, meaning that the menial task of simple piloting is left to an automated autopilot suite. Input the proper commands and the vessel will take care of itself indefinitely, as long as nothing unexpected or complicated turns up.

This add-on gives the ship the Autopilot Suite special quality. While active, the suite takes care of any Operations or Pilot checks required and the Craft is considered to be Automated. It has a +5 Training bonus. It cannot execute any order requiring an attack roll. Should any outside stimuli affect the ship in any way, including space debris, sensor anomalies or a communication, the autopilot suite will sound several alarms and return manual control in d6 minutes time to whomever is hopefully standing by to take over.



system is overridden). Overriding a DAC system requires a DC 25 Operations (systems) check.

Note that DACs fitted to ships with the Jump Point special feature may (and usually do) create jump points to reach their zero point.

### Dedicated Autopilot Code

**Cost:** 13,000 cr.

**Minimum Size:** Tiny

**Influence Required:** Any Economic (DC 20)

Some ship owners are constantly worried about the loss of their vessels to raiders or inept crews. Those that really do believe that their vessel might be taken from them can invest in a drastic security program – the Dedicated Autopilot Code (DAC). Instead of being a programmable code to set a course for a vessel to take, the DAC requires a code to be discretely entered before any navigations are programmed or the ship's auto-pilot will set course immediately back to a pre-programmed 'zero point'. That way, if someone did in fact steal the vessel they would need to know the proper codes or else the ship will soon be headed back to the port of the ship owner's choice, and no doubt the authorities.

DACs may only be fitted to a craft with the Autopilot Suite special feature.

This add-on gives the ship the DAC special quality. Activation of the DAC locks out all external controls and engages the Autopilot Suite. In this case, the Autopilot Suite will not relinquish control, even if external stimuli would normally warrant it (unless the

### Grapple

**Cost:** 6,000 cr.

**Minimum Size:** Diminutive

**Influence Required:** Any Economic (DC 12)

A few vehicles, such as maintenance pods and Starfuries, are equipped with mechanical grapples that allow the pilot to remotely grab objects such as cargo pods, debris and other vehicles. These extendable 'arms' are used for a variety of reasons. The grapple is a very useful tool in many ways but does require a very steady hand or skilled computer technician (as it can be directed manually or by computer program) to function adequately.

This add-on gives the ship the Grapple special quality.

### Ghost Scan Emitter

**Cost:** 15,000 cr. per emitter

**Minimum Size:** Tiny

**Influence Required:** Criminal (DC 15)

The bane of smugglers, arms dealers and other contraband-laden vessels are the active scans of trade marshals and other authorities. One quick pervasive sweep could reveal weapon power cores, hidden slaves or worse. These discreet ECM variant attachments actually broadcast subtle signals for

## Finishing Touches



## Finishing Touches

scanners to pick up; signals that broadcast the ship's cargo as other than it actually is. In short, ghost scan emitters (GSEs) can be a smuggler's best friend.

This add-on gives the ship the GSE +X special quality. A ship can contain a maximum of one ghost scan emitter for every ten cargo spaces. For each ghost scan emitter installed, increase the ship's effective Stealth score against *Active Scan* orders that target the ship by +2. Note that this increase to Stealth *only* applies against *Active Scans*. If the scanning ship's Operations (sensors) check fails by 5 or more, it detects precisely what the ghost scan emitters are broadcasting.

### Hidden Cargo Compartment

**Cost:** 4,000 cr. per compartment

**Minimum Size:** Medium

**Influence Required:** Criminal (DC 12)

There are many spaceships on the spacelanes that are being used for smuggling. It is a very profitable business and people are forever being recruited, willingly or not into it. One of the oldest tricks in the business is to hollow out a bulkhead or old fusion casing, mark it as nondescript as possible and fill it with precious contraband.

This add-on gives the ship the Hidden Cargo Compartment special quality. A hidden cargo compartment conceals a single cargo space. The DC to detect this cargo space or the cargo within it, whether through using sensors or simply searching for it, is increased by +10.

A ship can have more than one hidden cargo compartment, but each compartment after the first reduces the concealment bonus by one point. Therefore a ship with two hidden cargo compartments only increases the detection DCs by +9, while a ship with four hidden cargo compartments only increases the detection DCs by +7.

### Hyperspace Jump Drive

**Cost:** 1 million cr.

**Minimum Size:** Large (Minbari), Huge (other races)

**Influence Required:** Minbari Economic (DC 30), any other Economic (DC 20)

Only the very largest and most sophisticated spacecraft are capable of creating their own jump points into hyperspace. Most have to rely on jump gates and so are forced to use regular trade routes. Those that create their own entry into or out of hyperspace are far more flexible. Creating jump points puts a spacecraft's power plant under tremendous strain and few can make multiple jumps quickly and easily. A spacecraft that has created a jump point may not create another for a period of one minute. Failure to wait the allotted time could

result in the catastrophic malfunction of the drive, possibly stranding the ship or ripping it apart.

This add-on gives the ship the Jump Point special quality.

### Minbari Flight Computer

**Cost:** 530,000 cr.

**Minimum Size:** Tiny

**Influence Required:** Minbari Economic or Military (DC 30)

The computer systems built into most Minbari spacecraft are incredibly advanced, to the point where an authorised passenger simply need state where he wants to go and the vessel will simply take him there by the most expedient route, avoiding any dangers and hazards automatically. It is extremely intuitive and often programmed with safety checks and security programs. The Minbari do not part with their technology lightly and only a few of these super intelligent software kits have ever been found on the black market.

This add-on gives the ship the Minbari Flight Computer special quality.

### Pivotal Thrusters

**Cost:** 10,000 cr. per construction space

**Minimum Size:** Diminutive

**Maximum Size:** Large

**Influence Required:** Any Military (DC 15)

Fitting several small but powerful thrusters to specific points on a vessel, then firing them at very particular times and intervals, can give the vessel severe manoeuvrability benefits. When fitted with these extremely helpful little thrusters the ship can spin, flip and twist with much greater dexterity and grace.

This add-on gives the ship the Pivotal Thrusters special quality. Ships beyond Small size very rarely have pivotal thrusters, as the cost becomes prohibitive.

### Targeting Computer

**Cost:** Varies

**Minimum Size:** Diminutive

**Influence Required:** Any Military (DC Varies)

Possibly one of the most ubiquitous add-ons in the galaxy, the targeting computer is a synchronisation and diagnostic tool that controls and calibrates all the weapons on a ship. Targeting computers range from the purely functional systems of space liners and freighters, to the near-prescient attack superprocessors of the White Stars and other partially biological ships.



Even when not locked on, a targeting computer is what allows a craft to co-ordinate and combine its firepower into effective barrages. It also ensures that the craft does not accidentally blow off its own fins or wingtips when firing its weapons and works with the sensor suite to provide friend-or-foe target acquisition. However, most targeting computers come into their own when they lock on to an enemy craft. When locked on, the true calibre of the targeting computer kick in, allowing even the greenest gunner to hit his target with ease.

The cost and necessary influence check to acquire a targeting computer depends upon the bonus it applies to attack rolls when locked on, as shown on the Targeting Computer table.

### Targeting Computer

Attack Bonus	Military Influence DC	Cost
+1	10	2,000 cr. per weapon space
+2	15	4,000 cr. per weapon space
+3	20	10,000 cr. per weapon space
+4	25	20,000 cr. per weapon space
+5	30	50,000 cr. per weapon space

This add-on gives the ship the Targeting Computer (+X) special quality.

## EVOLUTION OF THE ARBITRARY JUDGMENT – CARGO, HANGAR AND EXTRAS

Knowing that he was quickly running out of room on his ship, McCabe decided to concentrate on the ship's hangar – he would need a decent berth for his Delta-V2 fighter. Choosing to add a single hangar space, the *Judgment's* small bay can accommodate one Tiny vehicle and has a launch rate of (1) – perfect for his needs.

Realising that he only has two construction spaces left unassigned, he converts both into generic cargo spaces.



This is not as much as McCabe had originally been planning on – hopefully, he will not be called in to recover more than 20 tons of stolen goods without some backup!

Knowing that he would need to possibly chase raiders or smugglers, McCabe chooses to add a set of afterburners. And since he may well need to have to retrieve looted cargo from destroyed hulks, he mounts a grappling arm near the ship's small hangar bay.

At this point, after becoming a rather impressive vessel, the *Arbitrary Judgment* has the following statistics:

## Arbitrary Judgment, Mercenary Gunboat

### Large Spacecraft

**Defence:** 12 (–1 size, +3 Handling); **Armour:** 25; **Handling:** +3; **Sensors:** +4; **Stealth:** 2; **Stress:** 13; **Features:** Afterburners, Grapple, Hybrid Engine (Fusion/Gravitic)

**Construction Spaces:** 32 (Cargo 2, Control 4, Crew 5, Engine 12, Hangar 1, Weapons 8)

### Fore Arc Weapons

5# Twin-Linked Solar Cannon (Close, Offence 67, 2 weapon spaces)

5# Standard Missile System (Long, Offence 20, Anti-Ship, 2 weapon spaces)

### Turret Weapons

5# Particle Beam Array (Close, Offence 12, Array, 4 weapon spaces)

**Craft (1):** 1 Delta-V2 Combat Fighter

## Finishing Touches



CLASSIFIED

# CLASSIFIED

**Look, I've got a great idea; there's some old Shadow-tech I know we can get a great deal on...**

## - Famous Last Words

Aside from the usual components and materials used for starship design, there are those that are kept secret and banned from general circulation. Some are restricted for good reason, others simply because no one understands how they work. We collectively call these items, sciences and technologies the *CLASSIFIED*.

They are extremely difficult to acquire unless special circumstances are laid out, even beyond the normal reach of Influence and politics. These items are the true secrets of the governments and races that created them, and as far as they are concerned they should stay that way.

Each of the following sections is very similar to those found earlier in this book, but all have one major difference. Each entry will not have a cost or Influence check listed at all, just a dominant faction that is in control of it. Gaining such a thing for a common shipbuilding process is at best barely possible. Anyone in league or directly linked to the dominant faction listed has a *better* chance to get their hands on such items, but even then it is ultimately up to the Games Master to allow.

Classified technologies and components could quite easily make for an entire story arc. A savvy shipbuilder could be trying to chase down that elusive Minbari jamming suite he heard is available from a raider cell. A Shadow agent could be trying to arrange for a melding of their technology and that of a lesser race. A group of Player Characters could be gifted with an unexpected ship that radically changes their views and abilities while they are on board. There is a host of possibilities.

One thing to remember however is several of the items and systems listed in this section are extremely powerful. They are not intended for common ships and are not available to even elite shipbuilders. If the Games Master allows for these items to be distributed with little effort, it will not take long before the players are holding planets for ransom at the mercy of their deadly ships!

## CLASSIFIED ARMOUR

There are a few advances in armour technologies that are well beyond the normal scope of this galaxy's normal inhabitants.

### Adaptive Armour

**Dominant Faction:** Vorlon Empire

Like the living skin of Vorlon ships, this armour variety actually 'learns' how to better deal with the weapons that strike it. In just a few sample attacks the armour will literally 'shrug off' the majority of a weapon's damage once it has learned how to adapt to it. Found only on the most advanced spacecraft that use bio-technology, adaptive armour is a layer on the hull that can intelligently and automatically react to any incoming fire. By moderating its surface, conductive properties and introducing reflective enhancements within a fraction of a second, the energy of any attack may be dissipated, leaving only the actual force of the blast to strike the hull.

A ship designed with adaptive armour gains the Adaptive Armour special quality.

### Bio-Adaptive Shielding

**Dominant Faction:** Interstellar Alliance

Reverse engineered from pieces of Vorlon ship carcasses left behind from Coriana VI, the Interstellar Alliance took years to decipher the genetic codes that would allow for actual biological crystalline to be added to the hull plating of their newest projects. First installed on the Whitestar WSC-2 and the Victory-class Destroyers, bio-adaptive shielding is a marvellous step in the right direction toward having fully adaptive hulls.

A ship designed with bio-adaptive shielding gains the Bio-Adaptive Shielding special quality.

### Electromagnetic Armour

**Dominant Faction:** The Techno-Mages

By using alternating fields of electromagnetic energy wrapped around individual plates of armour, vast amounts of energy can be dissipated easily when attacked. Used almost solely by the enigmatic Techno-mages in their advanced Pinnaces, EM Armour is a vast improvement to even energy-based shielding. It is because of this 'magical' armour that their ships seemingly slide through all but the strongest attacks.



### Classified Hull Material Modifiers

Material	Time Modifier	Design DC Modifier	Armour Modifier	Stealth Modifier	Stress Modifier
Adaptive Armour	+100%	+12	+6	+5	-5 (to a minimum of 1)
Bio-Adaptive Shielding	+60%	+10	+5	+4	-4 (to a minimum of 1)
Electromagnetic Armour	+70%	+8	+3	+10	-6 (to a minimum of 1)

A ship designed with electromagnetic armour gains the Electromagnetic Armour special quality. This quality operates identically to the EM Shield quality, except that the equipment bonus is increased to +12 and the ship suffers no penalty to when using its own targeting computer or holding a weapons lock. A ship may not benefit from both electromagnetic armour and an electromagnetic shield.

## CLASSIFIED WEAPON SYSTEMS

There have been a number of advanced weapon systems that have reared their heads in the *Babylon 5* universe from time to time. They are sought after by everyone who knows what they can do, and some have even become accessible through huge reverse-engineering efforts and secret projects that have taken years.

These weapons are extremely powerful and are truly the stuff of legend in some cases, able to tear ships asunder in seconds. Going up against a vessel equipped with the types of weaponry found here is foolish and often suicidal – unless you too are equipped likewise.

### Discharge Gun (attached to Large craft)

Close, Offence 120, 2 weapon spaces

### Discharge Gun (attached to Huge craft)

Close, Offence 180, 2 weapon spaces

### Discharge Gun (attached to Gargantuan craft)

Close, Offence 240, 2 weapon spaces

### Discharge Gun (attached to Colossal craft)

Close, Offence 300, 2 weapon spaces

**Dominant Faction:** Vorlon Empire

The first of the Vorlon electromagnetic energy weapons, the discharge gun simply manifests itself as a bolt of brilliant energy

that streaks out and drives into a target. Like a focused backlash of pure energy, the discharge gun is only as powerful as the living battery that is fuelling it.

Discharge guns ignore interceptors. A discharge gun's statistics are dependent on the size of the vessel it is attached to.

### Lightning Cannon (attached to Huge craft)

Long, Offence 100, Beam 3d10, 4 weapon spaces

### Lightning Cannon (attached to Gargantuan craft)

Long, Offence 200, Beam 4d10, 4 weapon spaces

### Lightning Cannon (attached to Colossal craft)

Long, Offence 300, Beam 5d10, 4 weapon spaces

**Dominant Faction:** Vorlon Empire

The unleashed fury of electromagnetic mastery, the lightning cannon is a huge focused beam of energy capable of shattering small moons. Like firing a million harnessed lightning bolts at tremendous ranges, the lightning cannon is nearly unmatched as an offensive weapon. Nothing can stand in the path of the lightning cannon.

A lightning cannon's statistics are dependent on the size of the vessel it is attached to.

### Jump Point Disruptor

Close, Offence Special, 2 weapon spaces

**Dominant Faction:** Shadows

A devious instrument the Shadows devised once they had achieved true hyperspace mastery, the disruptor fires a molecular pulse into the heart of an opening jump point – making it violently unstable and prone to collapse. If timed correctly the Shadows can even use the collapsing portal to crush their enemies between dimensions; a fitting end to cowards who would run from conflict.

This weapon allows the ship to use the *Disrupt Jump Point!* order.

CLASSIFIED



### Classified Weapon Systems

Name	Range	Offence	Qualities	Weapon Spaces
Discharge Gun	Close	120 (Large), 180 (Huge), 240 (Gargantuan), 300 (Colossal)	—	2
Lightning Cannon	Long	100 (Huge), 200 (Gargantuan), 300 (Colossal)	Beam 3d10 (Huge), Beam 4d10 (Gargantuan), Beam 5d10 (Colossal)	4
Jump Point Disruptor	Close	Special	—	2
Polarity Cannon	Close	50	—	2
Molecular Slicer Beam	Long	200	Beam 5d10	4
Phasing Pulse Cannon	Long	60	Rapid Fire 2	4

## New Response Order – Disrupt Jump Point!

**Type:** Offensive Response

**Skill Check:** Operations (gunnery) DC 25

**Success:** The craft fires its jump point disruptor at an opening jump point.

If successful, the jump point has a 50% chance of collapsing immediately. If it does not collapse immediately, it has a 50% chance of collapsing whenever a craft attempts to use the jump point. Ships caught in a collapsing jump point suffer a barrage with a Total Offence of 1d6 x 100 and will not leave their current dimension.

Only one *Disrupt Jump Point!* order may be executed per round.

**Failure:** Due to a mistiming of the response order, the disruptor is fired too soon or too late and has only a partial effect on the developing jump point. The percentile chances for the jump point to collapse are reduced to 10%.

### Polarity Cannon

Close, Offence 50, 2 weapon spaces

**Dominant Faction:** Shadows

The primary weapon of the darting and deadly Shadow fighters, the polarity cannon launches bursts of molecular energy to hopefully smash into enemy fighters or ship hulls. Not terribly powerful like the weapons of their bigger vessels, the polarity cannon is primarily to soften up a target in preparation for the killing blow slicing in from elsewhere.

### Molecular Slicer Beam

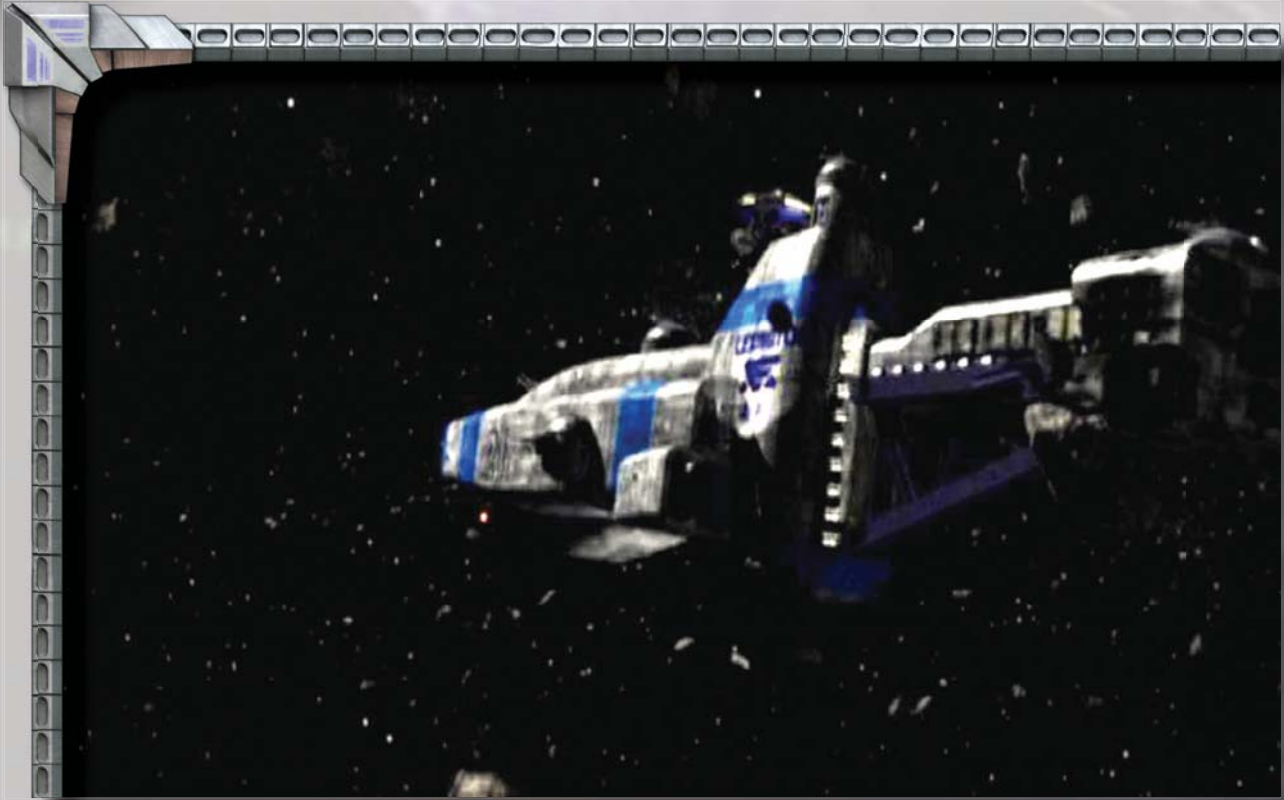
Long, Offence 200, Beam 5d10, 4 weapon spaces

**Dominant Faction:** Shadows

The primary weapon of the heaviest of Shadow vessels is the molecular slicer beam. A condensed beam of molecular energy capable of simply disintegrating matter at a molecular level, the slicer beam was named by the Younger Races thusly due to the image of the brilliant violet beam lopping off sections of ships with ease. Impossible to face and difficult to avoid, the slicer beam is a nightmare of Shadow technology.

The same weapon was later modified and fitted to the infamous 'Omega-X' Shadow Omegas, who stood defiantly in the way of the White Star fleet in the latter days of the Earth Civil War. Even with the marriage of Shadow and Human technology, they were defeated and, supposedly, no more of the deadly weapons are in Earth hands.





### Phasing Pulse Cannon

Long, Offence 60, Rapid Fire 2, 4 weapon spaces

### Heavy Phasing Pulse Cannon

Long, Offence 75, Rapid Fire 2, 4 weapon spaces

#### Dominant Faction: Shadows

The weapon used by Shadow scout vessels, the phasing pulse cannon is a souped-up version of the polarity cannon. It fires distinctive pulses of molecular energy capable of shearing layers off a ship in rapid succession by weakening armour and then repeatedly slamming pulse after pulse into the same area.

President Clark had fitted larger versions of the phasing pulse cannons to his Omega-Xs, boosting their range significantly but not succeeding in increasing their damage potential at all. These weapons were very effective in comparison to their predecessors but not according to the researchers – who wanted a great deal more out of them.

### Multi-Phased Cutter

Close, Offence 36, Rapid Fire 3, 2 weapon spaces

#### Dominant Faction: Earth Alliance

President Clark's first and last success in creating his own version of the molecular weaponry found on Shadow vessels, the multi-phased cutter was actually designed from the Shadows' jump point disruptor. Using molecular energy to scramble atomic bonds, the high-energy barrage that would stream from these weapons would cause significant damage when colliding with other objects. The multi-phased streams of energy blasts would blink in and out of phase as they sped towards the target, making interception all but impossible.

Multi-Phased Cutters ignore interceptors.

## CLASSIFIED ADD-ONS

Just as there are combat-related technologies that are hidden from the general public, there are several internal systems and components that are available. Only ever gained through nefarious means, these items can fetch *millions* on the black market.

CLASSIFIED



## Electromagnetic Shield

**Dominant Faction:** Vorlon Empire

Generally referred to as an EM shield, this field of powerful electromagnetic energy surrounds a vessel, making it difficult to get a proper sensor lock. Like the tension between opposite polar magnets, weapons fire also slows down slightly when it comes into contact with the field.

This add-on gives the ship the EM Shield special quality.

## Living Ship Matrix

**Dominant Faction:** Shadows / Vorlon Empire

The ship is actually a living entity growing outward from a central matrix, like a plant from a seed. The Vorlons are masters of bio-technology, to the extent that they are able to construct (or perhaps grow) spacecraft that are actually sentient and aware.

This add-on gives the ship the Living Ship and Self-Repairing special qualities. Only craft with purely biological engines can implant a living ship matrix.

## Minbari Jamming Suite

**Dominant Faction:** Minbari Federation

The stealth capabilities of the Minbari have baffled galactic researchers for decades, especially with how effective they were against the Earthers during their war. Using gravitic energy to bend solar static around their own vessels to hide them, the Minbari have created near perfect jamming technology.

This add-on gives the ship the Minbari Jamming Suite special quality.

## Self-Repairing

**Dominant Faction:** Shadows / Vorlon Empire

Usually, being self-repairing is a natural side-effect of a ship being alive (see the living ship matrix add-on). However, it is also possible to add this trait to any ship that has a biological or hybrid biological engine.

This add-on gives the ship the Self-Repairing special quality.

## Shadow Jump

**Dominant Faction:** Shadows

Possessed only by advanced Shadow vessels, the Shadow jump system bypasses the need to create jump points or use jump gates in order to enter or access hyperspace. Instead, the craft with this add-on merely phases in or out of hyperspace at will.

This add-on gives the ship the Shadow Jump special quality.

## OTHER CLASSIFIED TECHNOLOGIES

There are dozens or even hundreds of new secrets to be uncovered in the galaxy. Companies like InterPlanetary Expeditions are constantly finding interesting new things, and there is no end to the inventive spirit of the galactic governments. We encourage Games Masters to use everything we have given you here to base your own ideas and create your own secret missions and classified technologies that will keep your players on their toes. It is a very big universe out there; who knows what it has to offer?

## THE FINAL ADJUSTMENT TO THE ARBITRARY JUDGMENT

While preparing for his maiden voyage on the *Arbitrary Judgment*, Gavin McCabe receives an interesting StellarCom message from an old EarthForce colleague. His friend has heard of Gavin's new ship and has a very special extra to offer McCabe. The 'extra' turns out to be a fully functioning Minbari EM shield unit, complete with the requisite hull and computer links to fit perfectly into the *Arbitrary Judgment's* unique schematics.

McCabe is understandably uneasy about this uncanny coincidence and is even more perturbed when his old friend states that he – and his sponsors – do not want money in return for this remarkable piece of technology. They simply want McCabe to see it as a favour that will one day have to be repaid...

At this point, after attaching the electromagnetic shield, the *Arbitrary Judgment* has the following statistics:

## Arbitrary Judgment, Mercenary Gunboat

### Large Spacecraft

**Defence:** 12 (-1 size, +3 Handling); **Armour:** 25; **Handling:** +3; **Sensors:** +4; **Stealth:** 2; **Stress:** 13; **Features:** Afterburners, EM Shield, Grapple, Hybrid Engine (Fusion/Gravitic)

**Construction Spaces:** 32 (Cargo 2, Control 4, Crew 5, Engine 12, Hangar 1, Weapons 8)

### Fore Arc Weapons

5# Twin-Linked Solar Cannon (Close, Offence 67, 2 weapon spaces)

5# Standard Missile System (Long, Offence 20, Anti-Ship, 2 weapon spaces)

### Turret Weapons

5# Particle Beam Array (Close, Offence 12, Array, 4 weapon spaces)

**Craft (1):** 1 Delta-V2 Combat Fighter



# REPAIRS AND RETROFITS

## Leftover parts? What leftover parts?

### - 'Hacksaw', Retrofitter Extraordinaire

Once a ship has left its birth and gone on its merry way, it may eventually come into some trouble. Asteroids, polarised dust clouds, solar storms, raiders and a host of other reasons might manage to cause some form of damage to the vessel. On the other hand, what if a ship's owner got a great deal on a new set of improved weapons, but had no room to simply attach them as is. It is these situations that will bring a ship back to dock for essential repairs or much needed retrofits.

Repairing a vessel is actually not all that difficult so long as the parts are available and the technicians capable. Patching holes, sealing rips, bridging wire gaps and so forth is just a matter of time, effort and resources. Not all repairs are quite so simple, however. Most dockside workers know how to weld down a hull breach, but few could tell you how to re-splice the framewires to a Minbari jamming suite.

Retrofitting is a bit trickier in the eyes of a shipbuilder or docker. There not only has to be space to install the necessary adjustments, but also the proper structural supports, power couplings and the like. With the right amount of cutting, removing, wedging and welding nearly any retrofit is possible for a good technician, but the ship might not be quite the same afterwards.

This section looks at the upkeep and alterations a ship owner might wish (or be forced) to undertake. From regular wear and tears to hull-boiling slashes from laser fire, there is more to fixing a ship than just slapping down more plates and calling it a day; just as it takes more than a crowbar and a laser cutter to squeeze in that extra plasma cannon.

## REPAIRS

Wear and tear, battle, piloting errors and putting too much stress on too small a hull are the main hazards of the industry. Ships get damaged, that is why most of them are built so well.

Damaged ships will hopefully retain their structure and shelter their crews from the ravaging void of space long enough to get to some place of refuge and arrange for repairs.

Repairing a starship is a commonplace occurrence for most ship crews and owners. It is a necessary evil that all but those very rare vessels with self-repairing capabilities must endure from time to time. Basic repairs that are ignored 'for another time' can mount up quickly, making it that much easier to cripple the ship later.

There are three main types of damage that must be repaired on a starship: erosion, stress-related and situational damage. Each affects a ship differently and costs vary to repair the damage caused.

*Erosion* damage is caused by tiny spaceborne particles, radiation from unshielded stars, small asteroids and the like. Erosion damage is a constant annoyance for any ship not equipped with electromagnetic defence shielding, self-repair systems or a particularly resilient hull. It takes weeks to even show on most vessels and causes no outwardly detrimental effects for up to six weeks between erosion repairs. Every week thereafter causes the ship to effectively lose 1 point of Armour until fully repaired. Erosion damage is the simplest, cheapest and least invasive damage to repair on any spacecraft but it is a constant problem.

Repairing erosion damage normally requires Technical (mechanical) checks.

*Superstructure* damage can come from two sources – the overworking of the ship's systems, most often through piloting errors or pushing a ship too close to its limits, an particularly devastating hits from beam weaponry. Bulkheads warp and buckle, armour plates snap like clay tiles and conduits all over the ship rupture and disconnect. Due to the fact that this damage tends to have a tremendous impact upon the cohesiveness of the hull itself, superstructure damage is difficult to repair and tends to be very expensive and time consuming. Any craft that has suffered a loss to its Armour score due to failing a Stress check in space combat or being hit by weapons that cause Armour damage is suffering from superstructure damage.

Repairing superstructure damage normally requires Technical (mechanical) checks.

*Internal* damage is the most common form of damage that a ship must seek repairs for. Damage caused to the ship's systems (construction spaces) is considered internal. Most often this is caused by a ship colliding with something that causes physical hull damage or by the ravages of another craft's weapon systems. Any sabotage or explosions that



## Repairs and Retrofits

### Minimum Repair Access Needed To Fix Damage Type

Size of Spacecraft	Erosion Damage	Superstructure Damage	Internal Damage
Fine	Docking	Docking	Personal <sup>1</sup>
Diminutive	Docking	Docking	Personal <sup>1</sup>
Tiny	Docking	Docking	Personal <sup>1</sup>
Small	Docking	Docking	Internal <sup>1</sup>
Medium	Docking	Docking	Internal <sup>1</sup>
Large	Docking	Docking	Docking
Huge	Framework	Framework	Docking
Gargantuan	Framework	Framework	Framework
Colossal	Zero-G	Framework	Framework

<sup>1</sup> Cargo and crew spaces may only be repaired at a docking platform or greater.

happen within a ship not caused by over-stressing the hull and miscalculations that cause collisions in hangar bays or catastrophic malfunctions are also internal. A ship's special features may also be

This category of damage is the largest of the three, due to the fact that it includes any form of damage that physically harms the ship's systems in an abrupt and invasive way. This type of damage is the main focus and source of income for most dockside repairmen and is therefore quite expensive.

Repairing internal damage may require Technical (electronics), Technical (engineering) or Technical (mechanical) checks, depending on the specific construction space that is being repaired.

Depending on the type of the damage and the severity, a ship might require more than just a few hours under the torch of the ship's engineer. The size of the ship and the type of damage it has suffered will dictate whether the ship can be repaired successfully. The Minimum Repair Access Needed To Fix Damage Type table shows where a particularly sized spacecraft can go to see each of its types of damage repaired.

The various repair accesses that a vessel has at its disposal range widely, but fall into a few specific categories. These categories are described below, but it should be noted that they are listed in order of requirement. Meaning, while a Tiny-sized ship *requires* Personal repair access at a minimum, it does not suffer for using any of the more specific versions. Conversely, a Large-class vessel cannot hope to repair its stress-related damages without the use of a Docking platform; Internal access and Personal access would not be sufficient.

*Personal:* Repairing a vessel personally is quite literally picking up the tools and fixing the vessel by hand. Personal repair attention is almost always part of every single other style of repair options but is listed separately due to the fact that it is not *necessary* to have huge platforms or frameworks to repair all ships.

*Internal:* One step up from simply applying the right tools to the job, Internal access during repairs means that the repair worker(s) must be able to get inside the vessel in part or wholly in order to fully repair the extent of the damage.

*Docking:* Some ships must be brought onto a docking platform in order to repair the damage to them. Be it a gravitic docking ring, a 'dry' hangar or platform or even inside a much larger craft or vessel; the ship should be stationary and powered down for repairs. This is not to say that a crafty ship's engineer cannot repair certain problems as they occur throughout a vessel's travels. It is just that a full repair job to bring the ship up to its maximum undamaged potential requires a bit more care, caution and better access.

*Framework:* Ships of much larger sizes require 360-degree access to all of their areas for certain repair procedures. This often requires the major construction of sturdy frames of scaffolding and safety gear that surround the damaged area(s). Framework repair access is the most widely used style of repair in the militaries of the galaxy and several spacedocks cater specifically to the military because of it.

*Zero-G:* The single most dangerous and all-encompassing access to repairing spacecraft is donning a space suit and going zero-g. Sometimes necessary in order to access anywhere upon the vessel that requires attention, only the most highly trained repairmen will regularly attempt this. Used by ships that do not have the time to find a dock or are too large to find one to effectively service them, zero-g repairs are either undertaken by the ship's own on-hand engineers as part of their duty to the vessel or are handled at a repair facility.

## Repair Process

Repairing the damages that a vessel suffers is not all that different from one vessel to the next. Unless a ship is *drastically* different from another, the skills required are basically the same. Patching one hull and splicing one variety of power

### Professional Repair Fees

Size of Spacecraft	Erosion Damage (per Armour point)	Superstructure Damage (per Armour point)	Internal Damage (per construction space) <sup>1</sup>
Fine	50 cr.	1,000 cr.	500 cr.
Diminutive	100 cr.	1,200 cr.	600 cr.
Tiny	200 cr.	1,400 cr.	700 cr.
Small	300 cr.	1,600 cr.	800 cr.
Medium	400 cr.	1,800 cr.	900 cr.
Large	500 cr.	2,000 cr.	1,000 cr.
Huge	600 cr.	3,000 cr.	1,500 cr.
Gargantuan	800 cr.	4,000 cr.	2,000 cr.
Colossal	1,000 cr.	6,000 cr.	3,000 cr.
<b>Hull Material Modifier</b>			
Advanced Composite	x2	x4	n/a
Prototypical/Unique	x4	x8	n/a

<sup>1</sup> If it is a special feature rather than a construction being repaired, simply roll 3d6 and multiply the result by 100 cr. to find the cost to repair that system.

<sup>2</sup> Halve this cost for hangar or cargo spaces being repaired. Double this cost for engine spaces.

cable is not going to be much harder from one ship to another. Even the sheer size of the ship needing repairs has little to do with the difficulty of the project, just the amount of repairs it will take to finish the job.

## Repair Costs

Repairs cost money. It is a fact that ship owners will need to come to terms with as their ships slowly (or quickly) come apart around them. In this case the size of the ship is less important than the extent of the damage to be repaired. There are a few exceptions due to the nature of the materials necessary (Minbari polymer hulls, for instance) and the type of damage being repaired that can affect the overall price.

Each docking centre is different when it comes to repair charges and docking fees, but most are manned by at least the most basic of repair crews – even if it is a single engineer with a toolkit!

One commonly used method of getting a ship to agree to repairs is for the docking centre to 'throw in' the repairs of any erosion damage the ship has suffered with the normal station docking fees. Once the vessel is already in the repair bay, it is far easier for the dockers to point out other repairs that could be done in the same time frame. This does mean that swindlers and con men could take advantage of an unknowing ship owner or crew, claiming that repairs are necessary when none are actually needed. Sense Motive skill checks and a good knowledge of the crew's own ship can help stop such activities before they occur.

There are also safeguards in place so repair facilities do not get conned either. It is a general rule that most facilities will require at least half of the expected fee paid in advance before starting any work at all. It would be far too easy for a less-than-respectable ship's crew to accept days' worth of repairs and then leave before the bill is paid. Player Characters can guess roughly (+/- 10% roughly) how much repairs to a vessel will cost by one of two ways: a DC 15 Knowledge (engineering) check or a DC 25 Appraise skill check – either of which will give the character a good idea of potential expense.

No matter the cause or reasons, each facility will need to stay relatively close to the average fees that are listed on the Professional Repair Fees table. These rates are set by the galactic standard and although they might alter depending on the situation, they are a very good base number to work from.

When using the Professional Repair table, it takes one hour to repair one Armour point or construction space. It takes 2d10 hours to repair a special feature.

Remember, the Professional Repair table shows the costs for professional repairs. They include materials, labour, insurance and a dozen other unmentionable fees. It is considerably less expensive for someone skilled enough to repair their own vessel. Should they have the proper repair accesses, tools for the job and an avenue for materials and spare parts sizeable enough to repair the vessel in question they could feasibly save a great deal of money doing the work themselves.

The Personal Repair Costs table shows the cost amounts for performing repairs personally. As always, these numbers could be modified

## Repairs and Retrofits



## Repairs and Retrofits

### Personal Repair Costs

Size of Spacecraft	Erosion Damage (per Armour point)	Superstructure Damage (per Armour point)	Internal Damage (per construction space) <sup>1</sup>
Fine	10 cr.	500 cr.	250 cr.
Diminutive	20 cr.	600 cr.	300 cr.
Tiny	40 cr.	700 cr.	350 cr.
Small	60 cr.	800 cr.	400 cr.
Medium	80 cr.	900 cr.	450 cr.
Large	100 cr.	1,000 cr.	500 cr.
Huge	150 cr.	1,500 cr.	750 cr.
Gargantuan	200 cr.	2,000 cr.	1,000 cr.
Colossal	400 cr.	3,000 cr.	1,500 cr.

#### Hull Material Modifier

Advanced Composite	x2	x4	n/a
Prototypical/Unique	x4	x8	n/a

#### Additional Costs

Docking Facility Access (per 8 hours)	200 cr. per size category of the craft (200 cr. for Fine, 400 cr. for Diminutive, and so on)
Framework Facility Access (per 8 hours)	500 cr. per size category of the craft (500 cr. for Fine, 1,000 cr. for Diminutive, and so on)
Hiring Zero-G Gear (per 24 hours)	100 cr. per size category of the craft (100 cr. for Fine, 200 cr. for Diminutive, and so on)

<sup>1</sup> If it is a special feature rather than a construction being repaired, simply roll 3d6 and multiply the result by 100 cr. to find the cost to repair that system.

by the situation involved or by a Games Master. Of course, if situations in the ongoing game eliminate some of these costs – such as a ship already in dock needing docking access for its repairs – they would not apply, as they have already been paid or waived.

When using the Personal Repair table, it takes one hour to repair one Armour point or construction space. It takes 2d10 hours to repair a special feature.



## RETROFITS

Some things are constant. Water is wet, the sky is blue, Drazi fight... and starships become obsolete. It is just the natural order of things. Weapons are made more powerful, hull designs become sleeker, engines become faster and more efficient and new technologies rise to devour old ones. This is why there are so many dockers and dealers in the galaxy on the hunt for options to retrofit.

Retrofitting is the act of adding components to an existing hull in order to make it better suit the owner's needs and wants. Whether it is being undertaken for monetary, technological, personal or other reasons; retrofits take place in hundreds of docks and facilities across the galaxy at any given time.

Unlike repairs, which simply replace damaged parts with functional versions, retrofits often have to be squeezed on to a chassis before they can actually be used properly – if at all. This can be as easy as using existing space the ship designer intended for such things, or it can be terribly difficult trying to squeeze a component into place without crowding out something important.

Also unlike repairs, which often require true professionals or at least a good place to perform the work, retrofitting can be

done nearly anywhere if the one performing the retrofit wishes it so. Dry dock, flotilla, Zero-G – whatever is necessary for the job at hand. Some of the biggest retrofits in the history of space travel have happened between battles or engagements, including the massive retrofit of Babylon 5's weapons systems in 2259.

Retrofitting is drastically different than simply making a new variant of an existing ship. Variants are designed with a new purpose in mind using the same basic hull. Retrofits are alterations that take place after the ship has been produced, or been in service for some time. There have been times – like the dreaded pulse variant of the Omega-class destroyer – where a retrofitted vessel became the model for a new line of variants, but often this is not the case due to the risks involved with drastic retrofits. The process itself is not terribly difficult in theory:

**Step One; obtain new components.**

**Step Two; removing old components.**

**Step Three; fitting the new components.**

It is supposed to be just that easy. In reality, it can be a difficult task filled with expensive component modifications and frustrating amounts of work.

## Step One – Obtaining New Components

Obviously, this step in the process is rather self-explanatory. If a ship owner cannot procure the components that the dockers will be retrofitting, there will be no further procedures and the retrofit is cancelled. This is rarely the case, as most ship owners only begin to think about retrofitting when they are in a position to procure the relevant upgrade.

More importantly, there are only certain items that can be retrofitted to a ship. By far the most common retrofit is to install more powerful weaponry or layer more armour onto a hull. Hulls themselves and other core systems cannot be retrofitted – such changes would require radical redesigning of the ship.



### What Can Be Retrofitted

Sensor suites; ECM suites; additional armour; weapon systems; defensive systems; cargo, crew & hangar spaces; most starship add-ons.

### What Cannot Be Retrofitted

Hulls and hull materials; engines; central computers; life support systems. Also, note that a ship cannot retrofit an item it could not technically mount. For instance, no Small craft may include a hyperdrive jump engine when designed and therefore one may not be added through retrofitting later on, either.

The costs for all the retrofittable pieces can be found throughout this book, along with the necessary Influence to procure them.

## Step Two – Removing Old Components

In order to install the new components, old components will nearly always have to be taken out. There is only so much space in a starship and in order to make space for some retrofits, items will have to be removed.

### Old Components without Construction Spaces

**Sensor suites**, **ECM suites** and **starship add-ons** do not require construction spaces, though they will require for any previous versions of their particular type to be removed before installation. For example, while a +6 sensor suite does not require any construction spaces to be installed, it will require the old +2 sensor suite to be torn out first.



## Repairs and Retrofits

### Removing Old Components – Time & Resale Value

Technical (mechanical) Check Result	Time Expended to Remove Component or Convert Space to Unassigned <sup>1</sup>	Re-Sale Value of Component <sup>2</sup>
5 or less	1d10 hours	10%
6 to 10	1d8 hours	15%
11 to 15	1d6 hours	20%
16 to 20	1d4 hours	30%
21 to 25	1d3 hours	40%
26 or more	1 hour	50%

<sup>1</sup> This is the time it takes to remove a component that takes up one or no construction spaces. Multiply the result by the number of construction spaces for larger installations.

<sup>2</sup> The contents of a cargo, crew or hangar space that have been gutted to make room for an unassigned space cannot generally be resold, though a kindly Games Master may allow the contents to be resold for 1d10% of the original purchase price to a scrap merchant. The contents of a weapon space may be resold at the listed value, but only if every space that contained a particular weapon or defensive system was successfully removed (each Technical check result exceeded 15).

Tearing out old suites or add-ons can have a detrimental effect on the craft, however. For every suite or add-on removed, the retrofitter (or head retrofitter of a team) must make a Technical check at a DC of 20 + the rating of the removed system (if applicable). This is usually a Technical (electronics) check, though the Games Master may rule that an add-on such as a grapple may require a Technical (mechanical) check and a hyperspace jump drive may require a Technical (engineering) check.

If this Technical check succeeds, the component is removed without any complications.

If this Technical check fails, the component is removed but the work is scrappy and far from ideal. Apply a –5 penalty to any check required to correctly install the new component.

If the Technical check fails by 5 or more, the ship also loses one construction space due to the poor removal technique (the particular type of space lost is up to the retrofitter). This loss is considered to be permanent, as the ship's design has been permanently compromised by the sloppy removal of its hardware.

**Additional armour** also does not require construction spaces to be added, though it is not necessary to remove older additional armour before installing it.

#### Construction Spaces

New **weapons systems**, **defensive systems**, **cargo spaces**, **crew spaces** or **hangar spaces** will require the ship to 'make room' for them. Simply put, the craft must have the required number of unassigned construction spaces to accommodate the new equipment.

In game terms, every ship that is built has a set number of construction spaces (or just spaces) in its profile, which are set in the original design. The craft cannot exceed this number

– only a full re-design and recreation of the craft can add more construction spaces. However, what a craft can do is remove some spaces and leave them unassigned. These unassigned spaces can then be reassigned to a new purpose.

An easy example is when a crew space is converted to a cargo space. Quite simply, all of the 'crew' aspects of that particular construction space are removed – bunkbeds, personal storage lockers, tables, chairs, food dispensers. This leaves the space unassigned. This unassigned construction space then has its internal wall knocked down, restraining harnesses installed and the floor strengthened – effectively turning it into a 'cargo' space.

For every construction space converted into an unassigned space, a Technical check must be made, with a DC of 15. This is usually a Technical (electronics) check for weapons or defensive systems and a Technical (mechanical) check for cargo, crew or hangar spaces.

If this Technical check succeeds, the space is converted into an unassigned space without any complications.

If this Technical check fails, the component is removed but the work is scrappy and far from ideal. Apply a –5 penalty to any check required to correctly install any new component into that particular construction space.

If the Technical check fails by 5 or more, the ship loses that construction space. Quite simply, it is rendered useless by a mangled attempt to convert the old construction space. This loss is considered to be permanent, as the ship's design has been permanently compromised.

### Time and Resale Values

The process of removing starship components, like repairs, takes time and skill. It is also possible to save the component

### Fitting the New Components

Total of Knowledge (engineering) and Technical Check Results	Time Expended to Add Component <sup>1</sup>	Replacement Component Results
10 or less	1d20 hours	Disastrous
11 to 20	1d12 hours	Poor
21 to 30	1d10 hours	Poor
31 to 40	1d8 hours	Successful
41 to 50	1d6 hours	Successful
51 or more	1d4 hours	Successful

<sup>1</sup> This is the time it takes to install a component that takes up one or no construction spaces. Multiply the result by the number of construction spaces for larger installations.

being removed and then sell it on – this is normal procedure for many weapons systems. While the preceding rules detail how effectively the old components are removed, the Removing Old Components – Time & Resale Value table can be used to expand the Technical check's results.

*Time Expended to Remove Component:* This number reflects the number of man hours it takes to remove the component from the ship. So, if a team of two dockers are actually performing the removal the time is cut in half. Even on large retrofits though, it is rare to see a team of more than two dockers working on any given system at a time.

*Re-Sale Value of Component:* Spacecraft components are expensive. When one is removed, unless the docker could not help but tear it to pieces to remove it, the component is often given back to the owner. These parts can be saved in case the ship is damaged, for trade-in on new parts, or even re-sold to other crews or merchants in exchange for cold, hard cash. Depending on how tactful and careful the removers were, the component's value drops dramatically for the purposes of re-sale. Of course, a good haggler or stingy buyer can alter that amount significantly.

## Step Three – Fitting the New Components

Once the vessel is prepared for the retrofit, the dockers must now attach the new component to the allotted space. This is where skilled hands and higher grade equipment comes in very useful. A good retrofit will be seamless. Welds will be hidden behind reinforcement or access panels, gaps will be cinched up tight and unnoticeable and the parts will fit like they were designed to go just in that spot. A bad retrofit can be awkward to look upon, hard to assemble and fill useable space with crude reinforcements and insulation. A lot can go wrong, so ship owners are wise to be careful who they get to do the work.

Essentially, the docker merely has to attach all the pertinent cables, mountings and conduits; then seal the area to the required safety degree. An internal system will rarely need more than the attaching of an access panel or security door, whereas any component that has external hull-side elements must be reinforced and sealed up tight to keep the atmosphere in and the void out.

In game terms, the head retrofitter must make a Knowledge (engineering) check and a Technical check, then add the results together and compare it to the Fitting the New Components table. The Technical check is usually a Technical (mechanical) check, though it may be a Technical (electronics) or Technical (engineering) check at the Games Master's discretion.

*Time Expended to Remove Component:* This number reflects the number of man hours it takes to install the new component from the ship. So, if a team of two dockers are actually performing the installation the time is cut in half. Even on large retrofits though, it is rare to see a team of more than two dockers working on any given system at a time.

*Replacement Component Results:* When the process is completed and all man-hours have been spent, not all retrofits will end up as effective as others. Loose wires, total failures, perfect seams or just rattled bolts are all part of the job. The following results are possible:

- 5# **Disastrous** – The retrofit went horribly wrong. The component is not installed and, unless an appropriate Technical check succeeds (DC25), it may be permanently damaged, losing d10 x 5% of its resale value. The craft itself permanently loses one construction space. The process must be attempted again if the component is to be attached.
- 5# **Poor** – The retrofit works but not very efficiently. Wires and cables are just bunched together and stuffed out of sight, the attaching welds and folds look like rough scars and a great deal of space has been wasted. The craft



## Repairs and Retrofits



permanently loses one construction space, in addition to the spaces the new component may take up in itself.

- 5# Successful**– The retrofit went just as planned. Nothing adverse occurs and the new equipment functions as expected.

While the dockers' skills are the primary force behind a good retrofit, there are several other factors that can affect their efficiency. The re-sell grade of the component(s) being

retrofitted, the size of the vessel and so on, can drastically affect the success of the retrofit. The most well-versed and highly trained dockers can only do so much with second or third-hand parts being fitted to a vessel built by a completely different species.

The Retrofitting Modifiers table shows a variety of standard modifiers to a retrofitter's Technical (mechanical) skill check. In special situations, the Games Master can feel free to reduce or increase these modifiers or add new ones depending on the circumstances.

### Retrofitting Modifiers

Situational Modifier	Modifier to Fitting the New Components check
Damaged component	–1 per 10% loss to re-sale value
Poor removal of previously installed component	–5
Attempting to fit component into Fine, Diminutive or Tiny spacecraft	–2
Component is of different racial design to engine (Human afterburners attached to Centauri gravitic engine)	–3
Component is of different racial design to central computer (Drazi grapple attached to Vree central computer)	–3
Component is of different racial design to hull (Minbari neutron laser on Narn hull)	–3

<sup>1</sup> These can be cumulative for a single component. For instance, attaching a Human afterburner onto a Centauri hull, that already has a Minbari-made central computer and engines from a Drazi supplier, applies a –9 penalty. This is the price many retrofitters must pay when attempting to balance the widely differing needs of different races' technological styles. If the retrofitter happens to have the Alien Technology Familiarity class feature for another race, reduce the penalty to –2.

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**The Roleplaying Game**

**Second Edition**

# Ship Builder's Manual

White Star, Omega, G'Quan, Vorchan, Avioki, Primus, Victory

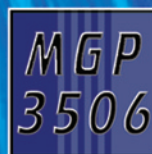
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