

2300AD

SHIPS OF THE FRONTIER



TRAVELLER®

2300AD

HUMANITY DISCOVERS THE STARS

SHIPS OF THE FRONTIER

CREDITS

2300AD ORIGINAL WRITERS AND CONTRIBUTORS

Marc Miller

Loren Wiseman, John Harshman, Frank Chadwick, Darryl Hany, Winston Hamilton, Tony Svajlenka, Scott Renner, Doug Poe, David MacDonald, Wayne Roth, Paul R. Banner.

Author

Colin Dunn

Editor

Matthew Sprange

Layout & Graphic Design

Sandrine Thirache

Proofreading

Charlotte Law

Illustrations

Quentin Soubrouillard, Colin Dunn, Jonathan Torres, Alexey Rubakin, Xavier Bernard, Cassie Gregory, Jesse Sursoo

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Avery Dunn, Scott Ash, Gavin Dady, J.R. Thomas Jr., Wade Racine, Ian Stead, Stephen Herron, Edward Lipsett, Takeda Mataroshi, Kathy Anderson and everyone else who has helped and inspired.

TRAVELLER INNER CIRCLE

Andrew James, Alan Welty, Colin Dunn, M. J. Dougherty, Rob Eaglestone, Sam Wissa, Joshua Bell, Maksim Smelchak

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SHIPS OF THE FRONTIER

The worlds of 2300AD are spread across a sphere roughly 100 light-years in diameter, with alien space-faring civilisations on the fringes. The only thing connecting the far-flung worlds of the human sphere are starships, with the Jerome-effect stutterwarp allowing humanity, and two of the other space-faring species, to surpass the limitations of the speed of light.

The 55 human colonies on 32 worlds are largely reliant on starships and interstellar commerce. Few would be capable of self-sufficiency, should the starships stop coming, and trade with the homeworld and their mother countries is paramount.

There are three basic classes of spaceship; drones, small craft and large craft.

Drones are small, remote-operated vehicles, often equipped with stutterwarp drives and weapons. Small craft are typically under 100 tons in size but the definition sometimes includes larger vessels that operate solely as landers or similar short-duration vehicles. Small craft may or may not have a stutterwarp drive, depending on their purpose. Large craft are the true starships, with the power, endurance and navigational ability to travel from star-to-star. Large craft are almost always equipped with a stutterwarp drive.

Only the smallest of large craft will have interface ability, usually those under 300 tons. In most cases it is more practical for starships to carry smaller landing craft for interface transport than have the ability to land themselves.

INTERFACE CRAFT

Unless otherwise stated in the ship description, all interface craft are designed to operate from a Size 8 world and their descriptions reflect that. Most ships are designed to reach the Stutterwarp Wall from a planetary surface, although some are only intended to reach Low Orbit. This will be noted in the Drive Traits.

If the craft is launching from a world of Size less than 8, add the difference to the number of Burns the craft has available. This can be used for extended orbital operations.

If the craft is launching from a world of Size higher than 8, use the difference to calculate the external fuel and/or booster requirement. If the difference is only one, then the craft can reach Low Orbit but cannot reach the Wall.

Some craft will have noted in their descriptions additional Burns included for orbital operations. These Burns can be used to lift the ship from larger worlds.

In unmanned vehicles, cargo capacity can be increased or decreased to account for the change in fuel requirements. Alternatively, boosters and external tanks can be used to facilitate a launch from larger worlds.

CIVILIAN AIRCRAFT

D R O N E S

Unmanned sensor and combat platforms, drones are used by almost all nations. While the Kaefers use combat drones, they do not seem to make use of other types and the Sung and Pentapods do not use them, at least in a recognisable form.



DRONES

COMBAT DRONES

The long-ranged weapons of the fleet, combat drones are used much the same as missiles in terrestrial combat, stand-off weapons to kill the enemy before they kill you.

FRENCH DA-2290 BUS DRONE

The DA-2290 bus drone carries two sub-warheads in addition to the main one attached to the body of the weapon. The two sub-warheads are expended before the main one, with the possibility that the primary warhead would not need to be expended, allowing the drone and its expensive stutterwarp to remain intact and return to the carrier.

NAME: DA-2290

COUNTRY: France

YEAR: 2290

IN SERVICE: Unknown

POWER PLANT: 0.12 MW MHD Turbine

SIGNATURE: 1

SENSORS: Terminal Guidance Only

YIELD: 145kt

SUBMUNITION YIELD: 70kt each

JAPANESE RF-22 DRONE FIGHTER

While most nations are moving increasingly towards detonation laser warheads, Japan continues to research and develop drone fighters. While Japan does use license-built Ritage-2 weapons, there is considerable reluctance from both the military and civilian populations to use nuclear weapons.

The RF-22 is the latest generation drone fighter, fast and heavily armed with the Raiden weapon system. The Raiden rapid-fire particle beam weapon trades off damage capability but retains the electromagnetic cascade that allows a particle beam weapon to bypass armour entirely to affect internal systems. It has yet to be tested in combat but if the Kaefers return, it is expected that it will get its battlefield test.

NAME: RF-22

COUNTRY: Japan

YEAR: 2299

IN SERVICE: 50+

POWER PLANT: 0.27 MW MHD Turbine

REACTION DRIVE: OMS Rocket, 49 tons thrust

REACTION MASS: 4 Burns

SENSORS: Terminal Guidance Only

Drone	TL	Weapon	Magazine	Damage	Endurance	Tac Speed	Hull	Tons	Cost	Traits
DA-2290	12	Warhead	N/A	4D	12 hrs	3	1	4.5	MLv6.22	Blast 6, Radiation
	12	Submunition	2	2D						Blast 6, Radiation
RF-22	12	Raiden	10	1D+1	8 hrs	5	1	4.9	MLv6.26	AP 1, EM

Raiden Advanced Particle Beam Weapon

The Raiden weapon system was designed specifically for the RF-22 drone fighter and has yet to be deployed in any other role.

Weapon	TL	Range	Power	Damage	Tons	Cost	Traits
Raiden	13	Close	20	1D+1	1	MLv2	AP 1, EM

Drone	TL	Weapon	Magazine	Damage	Endurance	Tac Speed	Hull	Tons	Cost	Traits
Mainz-21	12	Laser Array	5	1D	Indefinite	0	1	4.5	MLv6.45	Accurate
Kilo	12	Warhead	0	3D	Indefinite	0	1	5	MLv8.1	Blast 8, Radiation

GERMAN MAINZ-21 ARMED SENSOR BUOY

The Mainz-21 is an unusual design. It is rare to see armed sensor drones of any sort but an armed buoy is rarer still. While the laser can track a stutterwarp ship, the stationary drone is an easy target. They were deployed in some numbers during the War of German Reunification but almost every one of them was destroyed or lost. The remaining buoys were warehoused pending disposal but after the Kaefer attack on the Eta Bootis system, Germany started deploying them in the Hochbaden and Dunkelheim systems as a first line of defence. Although the buoys are of limited effectiveness, they were available and could be of some use in an invasion. Most were deployed near the Hochbaden orbital habitats, which are very vulnerable to attack.

While the Mainz-21 only has enough battery power to fire the laser five times, it is able to recharge the battery at a rate of Power 5 per hour. Most experts do not think the Mainz will last long enough to fire all five shots, let alone use the recharge ability.

NAME: Mainz-21
COUNTRY: Germany
YEAR: 2279
IN SERVICE: Unknown
POWER PLANT: 1 MW Solar Panel
SENSORS: Basic Military

MANCHURIAN 'KILO' ARMED SENSOR BUOY

While the Mainz and other similar sensor buoys can be found in the service of Germany and other nations, only Manchuria fields a buoy armed with a detonation laser. This weapon system can be categorised as a 'space mine', although it is not considered autonomous. It, like other drones, must have a human operator to provide decision-making in the firing loop. It does have an autonomous mode but that system will attack anything that comes near with Radiated Signature 3+, on the theory that a ship that powerful must be military.

NAME: Kilo
COUNTRY: Manchuria
YEAR: 2286

Swarm Array

A swarm array sensor requires swarm collation software to be usable. It allows a number of smaller sensor platforms to act as one large platform.

TL: 12
Power: 2
Tons: 1
Cost: MLv0.1

Software	Bandwidth	TL	Cost
Swarm Collation Software	15	12	MLv9

IN SERVICE: Unknown

POWER PLANT: 0.5 MW Solar Panel

SENSORS: Basic Military

YIELD: 190 kt

Sensors drones are the eyes and ears of modern fleets, sent into harm's way to get vital intelligence and target information. They are considered disposable, if necessary.

MANCHURIAN HUNTER DRONE

The Hunter is a small, fast drone with minimal sensors. It is employed in groups of six, commonly called swarms. The drones are designed to feed their combined data feed to the controlling vessel, where aperture synthesis techniques will be employed to obtain high-resolution data of targets. This allows the drones to operate in passive mode only, whilst still generating acceptable data returns.

The software required is complex and the loss of only a few drones in the swarm severely compromises the quality of sensor data. With all six drones in the swarm, they provide DM+1 to Electronics (sensor) checks.

The loss of one drone has no impact on the swarm but the loss of a second reduces the DM to +0. Each subsequent loss inflicts a further DM-1.

Drone	TL	Endurance	Tac Speed	Hull	Tons	Cost
Hunter	12	10 hrs	5	1	2.2	MLv1.65
LM-9	12	Indefinite	0	1	3	MLv4.8

NAME: Hunter
COUNTRY: Manchuria
YEAR: 2289
IN SERVICE: Unknown
POWER: 0.35 MW Fuel Cell
SENSORS: Swarm Array

FRENCH LM-9 SENSOR BUOY

The LM-9 is an unarmed sensor platform, cheap enough to deploy in large numbers throughout a system. Buoys like this are the heart of so-called 'longscan' systems, a network of sensors across a solar system to aid in early detection of hostile forces. In systems like Eta Bootis, where the habitable world is beyond the system Threshold, they are not viable, but for most systems they give defending forces extra time to prepare. They cannot mount GADS, however, as that sensor requires an operating stutterwarp, so for complete coverage there must be GADS-equipped ships dispersed within the longscan net.

NAME: LM-9
COUNTRY: France
YEAR: 2291
IN SERVICE: 100+
POWER: 0.5 MW Solar Panel
SENSORS: Basic Military

SURVEY DRONES

Survey drones are long-endurance vehicles with significant autonomous capability. While in constant touch with their controller, sometimes the light-speed lag might be long enough that these drones must take action on their own.

HIGILAQ SURVEY DRONE

NAME: Higilaq
COUNTRY: Canada
YEAR: 2289
IN SERVICE: 3
SIGNATURE: 4

Light Speed Lag

Across system wide distances, light speed lag can be a problem. One AU has a lag of eight minutes each way, for example. The lag from the Threshold of a typical G-class star to a planet or ship in the life zone can be anywhere from 30 minutes to over two hours depending on orbital position.

POWER PLANT: 0.31 MW Radio-Thermal Generator
SYSTEM SPEED: 0.35 AU/day

REACTION DRIVE: OMS Rocket, 100 tons thrust
BURNS: 4

SENSORS: Standard Survey
ELECTRONICS: Computer/15, Long Range Comms
SOFTWARE: Auto-Repair/1, High-Function Robotic Control, Manoeuvre/0, Stutterwarp/1, Survey
SPECIAL: Repair Remotes x2

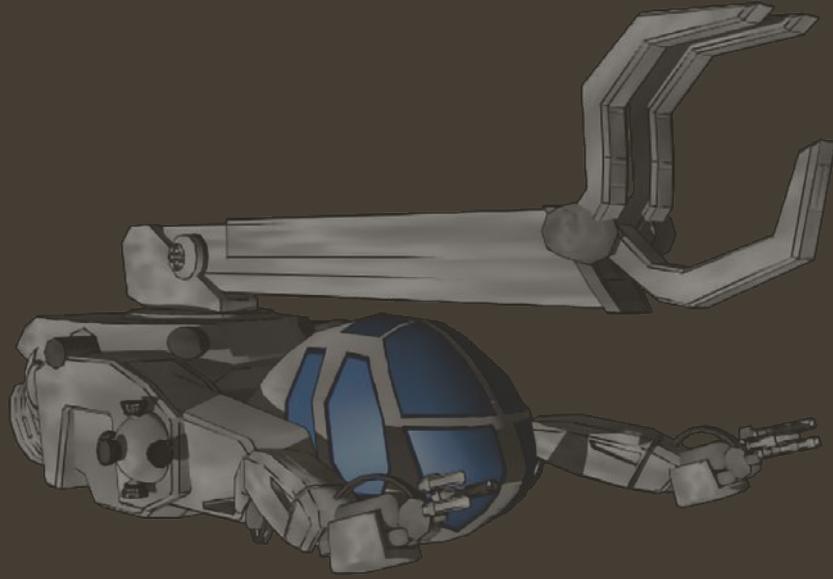
The Aquitaine Higilaq is used to extend the capabilities of an exploratory starship, providing survey information on worlds deemed interesting enough to explore, but not enough to send a manned vessel. The Higilaq is equipped with a powerful computer running the most advanced robotic control software available and requires little active supervision. These drones tend to develop a personality of sorts over the years.

The Higilaq is a very large drone, in the size range of small manned craft. While equipped with a rocket for orbital operations, fuel supply is limited. The drone will only reach below the Wall if a target world is especially interesting and it needs to get closer to perform a more detailed analysis.

With a radio-thermal generator for a power source, the Higilaq has effectively unlimited endurance. Some spend years moving around the target system, gathering survey data on everything of interest.

Drone	TL	Endurance	Tac Speed	Hull	Tons	Cost
Higilaq	12	Indefinite	1	1	13.5	MLv13.52

SPACECRAFT



CIVILIAN SPACECRAFT

The majority of spacecraft in human space are in civilian and commercial service. Of these, most are non-stutterwarp craft, landers, shuttles and orbital transfer vessels.

DROP PODS

Drop pods, often called aeroshells, are the most cost effective way to get cargo down from orbit to a planet's surface. They are available in a range of sizes up to 400 tons. All are blunt, round-bottomed cones, with a single-use heat shield on the underside allowing a planetary re-entry.

TERRAFUSE DRV-4 DROP POD

NATION: United States

FIRST EXAMPLE LAID DOWN: 2271

MANUFACTURER: American Linear Reaction Products (Now Trilon)

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 30 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Azania, Britain, Brazil

NUMBER IN SERVICE: 17+

HEIGHT: 13 m

WIDTH: 35 m

TAKE-OFF MASS (FULLY FUELLED): 300 tons

POWER PLANT: Hyde Everlast 100KW graphene battery, 8 hour duration

REACTION DRIVE: American Linear Reaction Products Jericho OMS Rocket, 1,600 tons thrust

Designed for use with the Commercant carrier, the DRV-4 has edged out the stock 100 ton drop pod from L'Étage. It can carry 142 tons of cargo to a colony world, dropped from low orbit. The pod is too large to be easily transported back to orbit, so is typically broken down for useful materials once deployed. It is designed so that every part, including the parachute, can be repurposed in support of a colony or outpost.

TL11		Tons	Cost (MLv)
Hull	160-ton Synthetic Ballistic	—	3.84
Hull Features	Disposable, Heat Shield, Parachute System	8	2.4
Reaction Drive	OMS Rocket	3.2	0.96
Power Plant	Battery (Power 1.8, 8 hours)	0.22	0.65
Fuel Tanks	OMS Rocket (1 Burn)	5.6	—
Radiators	Conventional, Capacity 2	0.2	0.01
Bridge	Autopilot	—	1.6
Computer	Computer/5	—	0.015
Sensors	Minimal	—	—
Software	Manoeuvre, Robotic Control (minimal, skill 0)	—	0.08
Cargo		142.88	—
Total: MLv8.61			

Crew	Passengers	Hull Points	Signature: 1
Autopilot: Pilot 0	0	16	Base Reflected: 1 Base Radiated: 0

Running Costs

Maintenance Cost: Lv718/month
Purchase Cost: MLv8.61

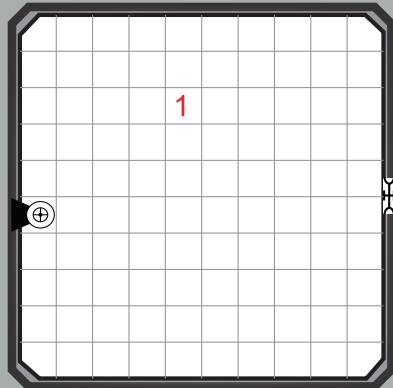
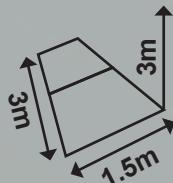
Power Requirements	Power
Basic Ship Systems	0.8 (no life support)
Sensors	1

TERRAFUSE DRV-4 DROP POD

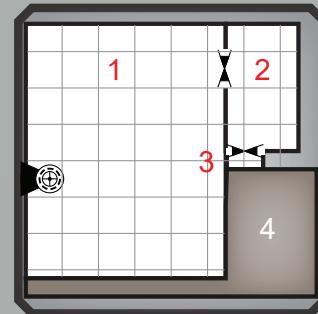
	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit

LEGEND

1. Cargo hold
2. Reaction drive
3. Power plant
4. Fuel tank



Deck 1



Deck 2

TRILON INDUSTRIES AS-400 ULTRA-HEAVY DROP BARGE

NATION: United States

FIRST EXAMPLE LAID DOWN: 2282

MANUFACTURER: Trilon

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 68 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United States, Australia, France, others

NUMBER IN SERVICE: 50+

HEIGHT: 18 m

WIDTH: 148.5 m

LAUNCH MASS (FULLY FUELLED): 4,000 tons

POWER PLANT: Hyde Durapower V 0.2 MW Fuel Cell

REACTION DRIVE: Trilon Aerospace Raptor-C (x3) OMS Rockets, 4,000 tons thrust total

This is the largest commercially available drop pod in production, so large it is commonly referred to as a drop barge. It is used for dropping modular structures and heavy equipment, including heavy vehicles and power plants. The AS-200 is a rare sight and requires a powerful vessel to move it.

The barge departs from the typical drop pod design. Rather than a squat cone with the blunt hemisphere of the heat shield for the base, the hull of the barge is a streamlined fairing, relying on the cargo for some structural integrity. All of this goes on the standardised heatshield/braking rocket platform.

The installed rocket is designed to provide some orbital manoeuvring capability but the main role is to provide atmospheric braking ability and lift to offset the load on the pod's parachutes.

TL11		Tons	Cost (MLv)
Hull	400-ton Aligned Crystal Steel Ballistic	—	8
Hull Features	Disposable, Heat Shield, Parachute System	20	6
Reaction Drive	OMS Rocket	8	2.4
Power Plant	Fuel Cell (Power 3)	0.25	1
Fuel Tanks	OMS Rocket (2 Burns)	28	—
	Power Plant (12 hours)	0.0324	—
Radiators	Conventional, Capacity 4	0.4	0.02
Bridge	Autopilot	—	4
Computer	Computer/5	—	0.015
Sensors	Minimal	—	—
Software	Manoeuvre, Robotic Control: (improved, skill 1, voice/speech recognition, interactive)	—	1
Cargo		343.22	—
Total: MLv20.49			

Crew	Passengers	Hull Points	Signature: 2
Autopilot: Pilot 1	0	20	Base Reflected: 2 Base Radiated: 0

Running Costs

Maintenance Cost: Lv1708/month
Purchase Cost: MLv20.49

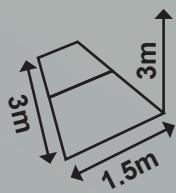
Power Requirements

Basic Ship Systems	2 (no life support)
Sensors	1

Power

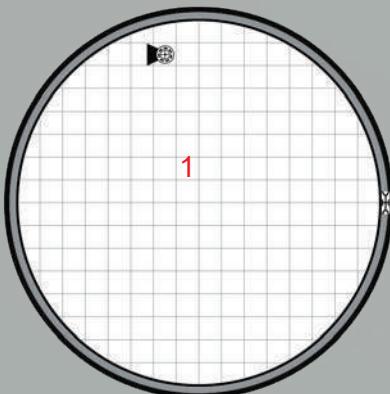
TRILON INDUSTRIES AS-400 ULTRA-HEAVY DROP BARGE

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit

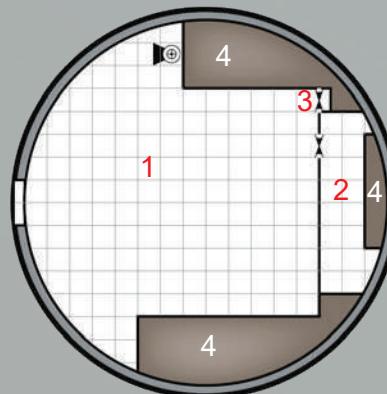


LEGEND

1. Cargo hold
2. Reaction drive
3. Power plant
4. Fuel tank



Deck 1



Deck 2

LANDERS AND LAUNCH VEHICLES

Landers and launch vehicles do the ‘heavy-lifting’ of space travel. An oft-cited maxim is that once you are in orbit, you are halfway to anywhere. Landers and launch vehicles perform that ‘half’ of space travel, as well as move cargo and personnel from surface to orbit and then back again.

ENDEAVOUR CARGO SHUTTLE

NATION: United Kingdom

FIRST EXAMPLE LAID DOWN: 2282

MANUFACTURER: Centurion Aerospace

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 41 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United Kingdom, Wellon, Azania

NUMBER IN SERVICE: 15+

LENGTH: 28.8 m

WIDTH: 9.6 m

WINGSPAN: 11.55 m

TAKE-OFF MASS (FULLY FUELLED): 1,500 tons

POWER PLANT: Royce F40 0.4 MW Fuel Cell

REACTION DRIVE: Royce D-series Air-Breathing Rocket, 6,000 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,200 km/h

TAKE-OFF ROLL: 1,800 m

LANDING ROLL, UNPOWERED: 3,000 m

LANDING ROLL, POWERED: 1,000 m

MAXIMUM AIRSPEED: Transonic

CRUISING AIRSPEED: Subsonic

ENDURANCE: 1 Hour per Burn

The Endeavour heavy lift vehicle can loft a large amount of material into low orbit. If it is required to go to the Wall, or perform any level of orbital manoeuvres, it would require an external fuel tank and boosters.

The cargo bay can be used to ferry cargo, smaller craft or a large passenger module capable of transporting 300 people in relative discomfort, along with nearly 60 tons of cargo. The bay is equipped with a grappling arm and a fine manipulator for handling cargo.

The Endeavour is a common sight on worlds that can support the necessary infrastructure, including a four kilometre runway.

Passenger Configuration

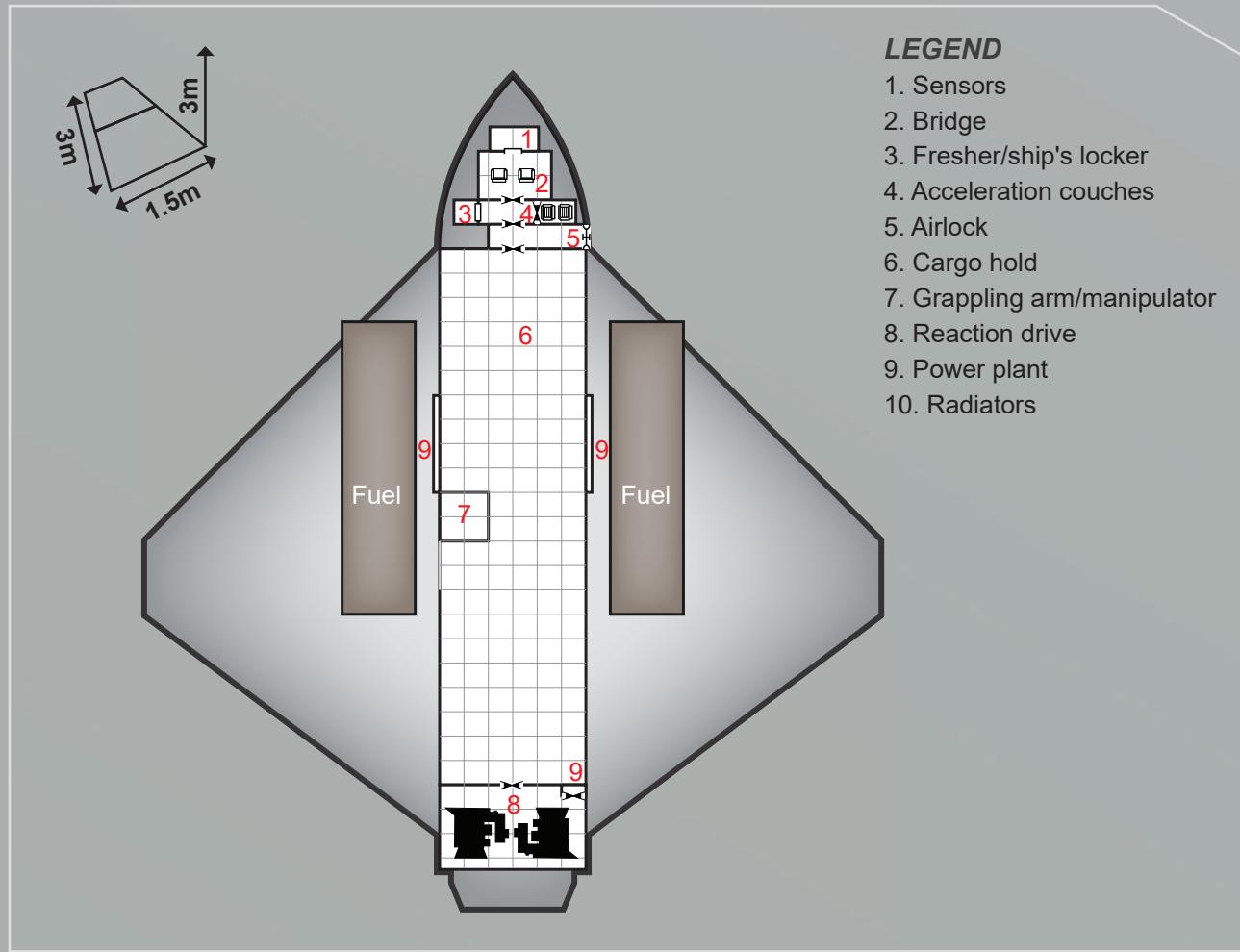
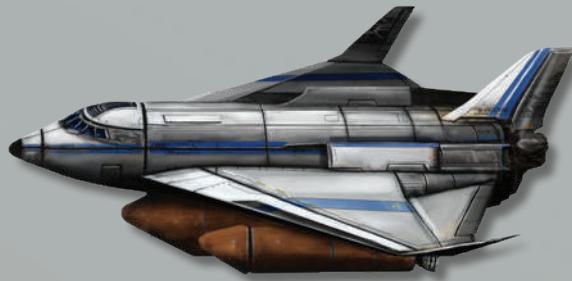
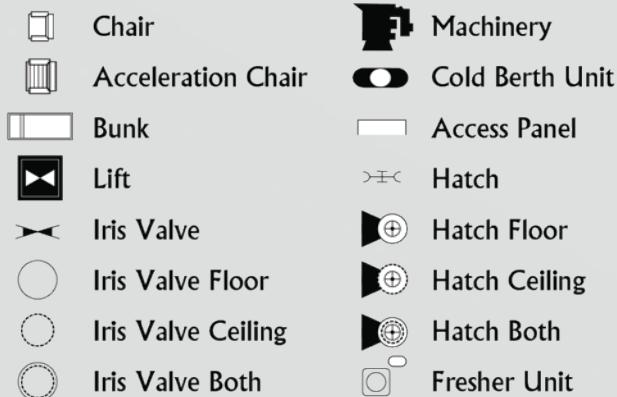
Add 300 acceleration couches, four simple freshers and two safety lockers, all contained in an 80-ton spaceframe. The spaceframe relies on the Endeavour for power, heat management and life support. Cost MLv9.83

Heavy Lift Configuration

When lifting very heavy loads the Endeavour launches in a vertical position, with an additional fuel tank and boosters.

TL11		Tons	Cost (MLv)
Hull	200-ton Synthetic Lifting Body	—	7.6
Hull Features	Heat Shield	—	2.4
Reaction Drive	Rocket (air-breathing, advanced, low orbit)	10	11.25
Power Plant	Fuel Cell (Power 4)	0.33	1.33
Fuel Tanks	Rocket (5 Burns)	40	—
	Power Plant (24 hours)	0.0864	—
Radiators	Conventional, Capacity 4	1.2	0.06
Bridge	Flight Deck	3	0.25
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Nav Array	1	0.1
Systems	Simple Fresher, Safety Locker	0.25	0.055
	Retractable Grappling Arm, Retractable Manipulator	4	0.15
Airlocks	Standard Airlocks x2	—	—
Accommodations	Long Duration Couches x2	1	0.1
Software	Archive, Intellect, Manoeuvre	—	1
Cargo		128.63	—
Total: MLv20.63			

ENDEAVOUR CARGO SHUTTLE



Crew	Passengers	Hull Points	Signature: 2
Pilots x2, Cargo Handlers x2	0	20	Base Reflected: 2 Base Radiated: 0

Running Costs

Maintenance Cost: Lv1719/month
Purchase Cost: Lv1719/month

Power Requirements

Basic Ship Systems	10
Sensors	2

Power

TRILON ARCHON HEAVY LIFT VEHICLE

NATION: Trilon
FIRST EXAMPLE LAID DOWN: 2212
MANUFACTURER: Trilon
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 52 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Trilon, United States, Australia
NUMBER IN SERVICE: 6
LENGTH: 22.91 m
WIDTH: 7.64 m
WINGSPAN: 9.17 m
TAKE-OFF MASS (FULLY FUELLED): 750 tons
POWER PLANT: Norton Thales VB-40 0.4 MW Fuel Cell
REACTION DRIVE: Trilon Reaction Engine Systems AR-30 Scramjet, 3,000 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 6,000 km/h
TAKE-OFF ROLL: 1,200 m

LANDING ROLL, UNPOWERED: 2,025 m
LANDING ROLL, POWERED: 675 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 Hour per Burn

Trilon has a colony on the world of Kie Yuma, which is extremely large but of lower-than-normal density. It still has a high surface gravity and the Archon was built to deal with that. The Archon employs every trick in the book but even with the best technology, it can still only manage low orbit with a decent payload. Trilon maintains an orbital refuelling station to allow the Archon to reach the Wall, rather than have starships burn expensive reaction mass to reach low orbit.

The *Archon* is designed to operate from a Size 10 world.

TL12		Tons	Cost (MLv)
Hull	100-ton Synthetic Lifting Body	—	2.8
Hull Features	Advanced, Heat Shield	—	3
Reaction Drive	Rocket (air-breathing, advanced, low-orbit)	7	7.875
Power Plant	Fuel Cell (Power 4)	0.29	1.71
Fuel Tanks	Rocket (7 Burns)	28	—
	Power Plant (12 hours)	0.0432	—
Radiators	Conventional (over-sized), Capacity 4	2	0.1
Bridge	Flight Deck, with Neural Link, Encrypted Comms	3	1.27
Computer	Primary: Computer/10 fib Secondary: Computer/5 fib	—	0.143
Sensors	Basic Nav Array	1	0.1
Systems	Safety Locker, Simple Fresher	0.25	0.055
	Cargo Arm (retractable)	1	0.15
Airlocks	Standard Airlock	—	—
Accommodations	Acceleration Couches x10	2.5	0.3
Software	Archive, Intellect, Manoeuvre, Neural Interface	—	2
Cargo		54.92	—
Total: MLv17.33			

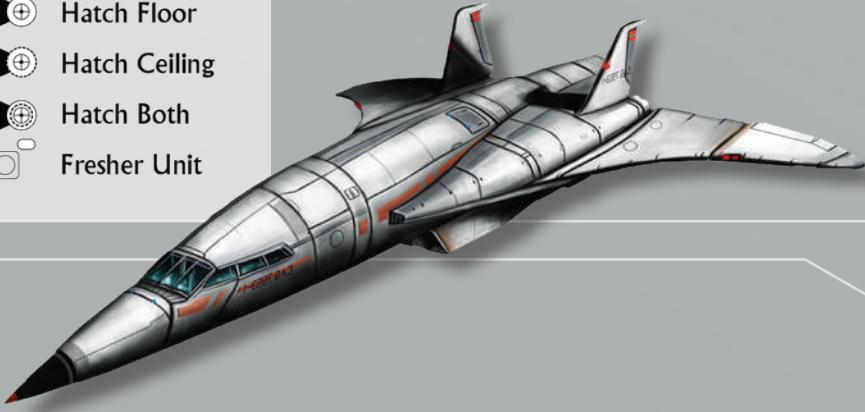
Crew	Passengers	Hull Points	Signature: 1
Pilots x2	10	11	Base Reflected: 1 Base Radiated: 1

Running Costs
Maintenance Cost: Lv1444/month
Purchase Cost: MLv17.33

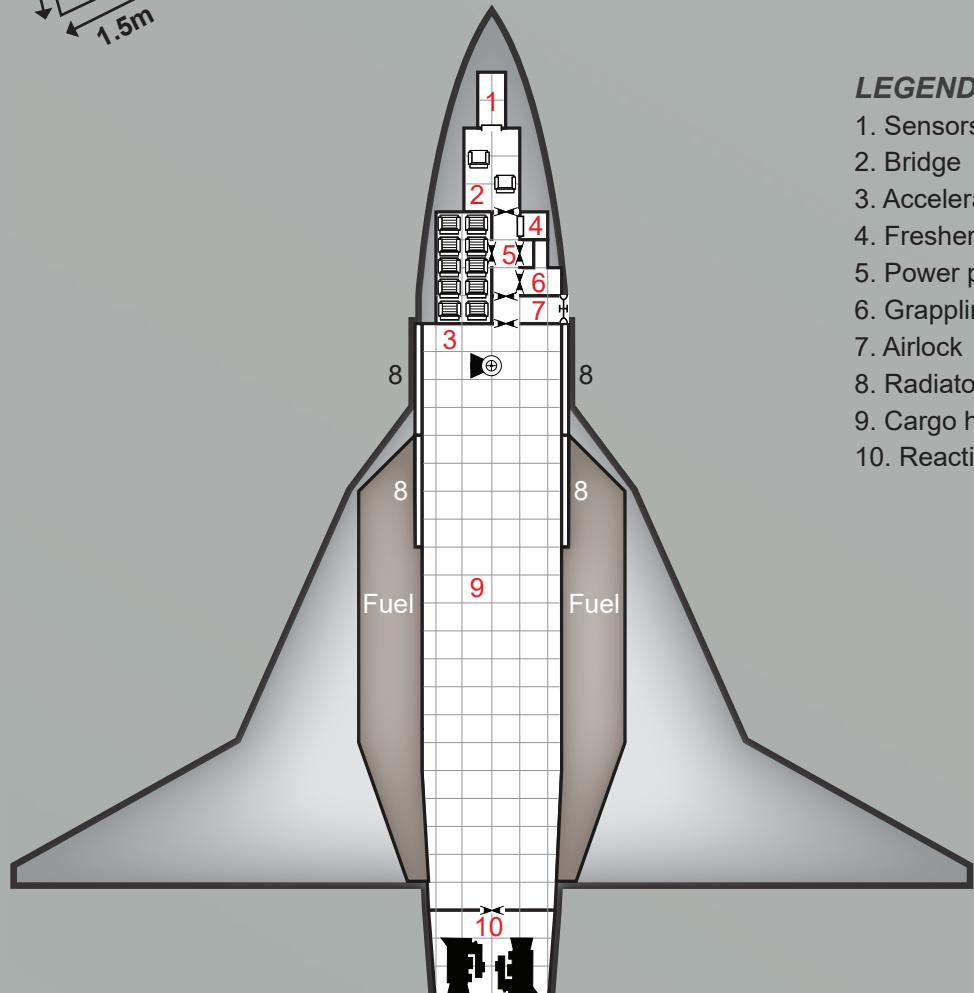
Power Requirements	Power
Basic Ship Systems	1
Sensors	2

TRILON ARCHON HEAVY LIFT VEHICLE

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit



3m
3m
1.5m



LEGEND

1. Sensors
2. Bridge
3. Acceleration couches
4. Fresher/ship's locker
5. Power plant
6. Grappling arm
7. Airlock
8. Radiators
9. Cargo hold
10. Reaction drive

JM-40 BALLISTIC LANDER**NATION:** Germany (Bavaria)**FIRST EXAMPLE LAID DOWN:** 2265**MANUFACTURER:** Koenig Aerospace**PRODUCTION STATUS:** Out of Production**CONSTRUCTION TIME:** 11 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Germany, Freihafen, Incan Republic**NUMBER IN SERVICE:** 57**WIDTH:** 8 m**HEIGHT:** 24 m**TAKE-OFF MASS (FULLY FUELLED):** 336 tons**POWER PLANT:** L'Étage RG6 0.6 MW MHD Turbine**REACTION DRIVE:** L'Étage Atlas-4 MHD Thruster, 1,200 tons thrust

Ballistic landers are well-suited for use on frontier worlds without a well-developed infrastructure. However, their lack of atmospheric manoeuvrability has led to them being superseded by VTOL-capable

spaceplanes. Obsolete ballistic landers like the JM-40 are popular in the secondary market with Libertines and independent colonies, along with some smaller exploratory corporations.

Originally commissioned as a military utility lander, the JM-40 has a lightly-armoured hull that makes it sturdy without impeding performance. These military craft had guns at the cargo doors for landing site security but the weapons have long been removed for civilian service.

The JM-40 is a medium-sized craft that requires remarkably little maintenance and with some modification can use distilled-hydrocarbons in place of hydrogen fuel. This does increase maintenance requirements but simplifies refuelling and support. Storing liquid hydrogen is difficult, something many young colonies find difficult to manage. Storing liquid oxygen is technically much easier and distilling petroleum into kerosene is simple.

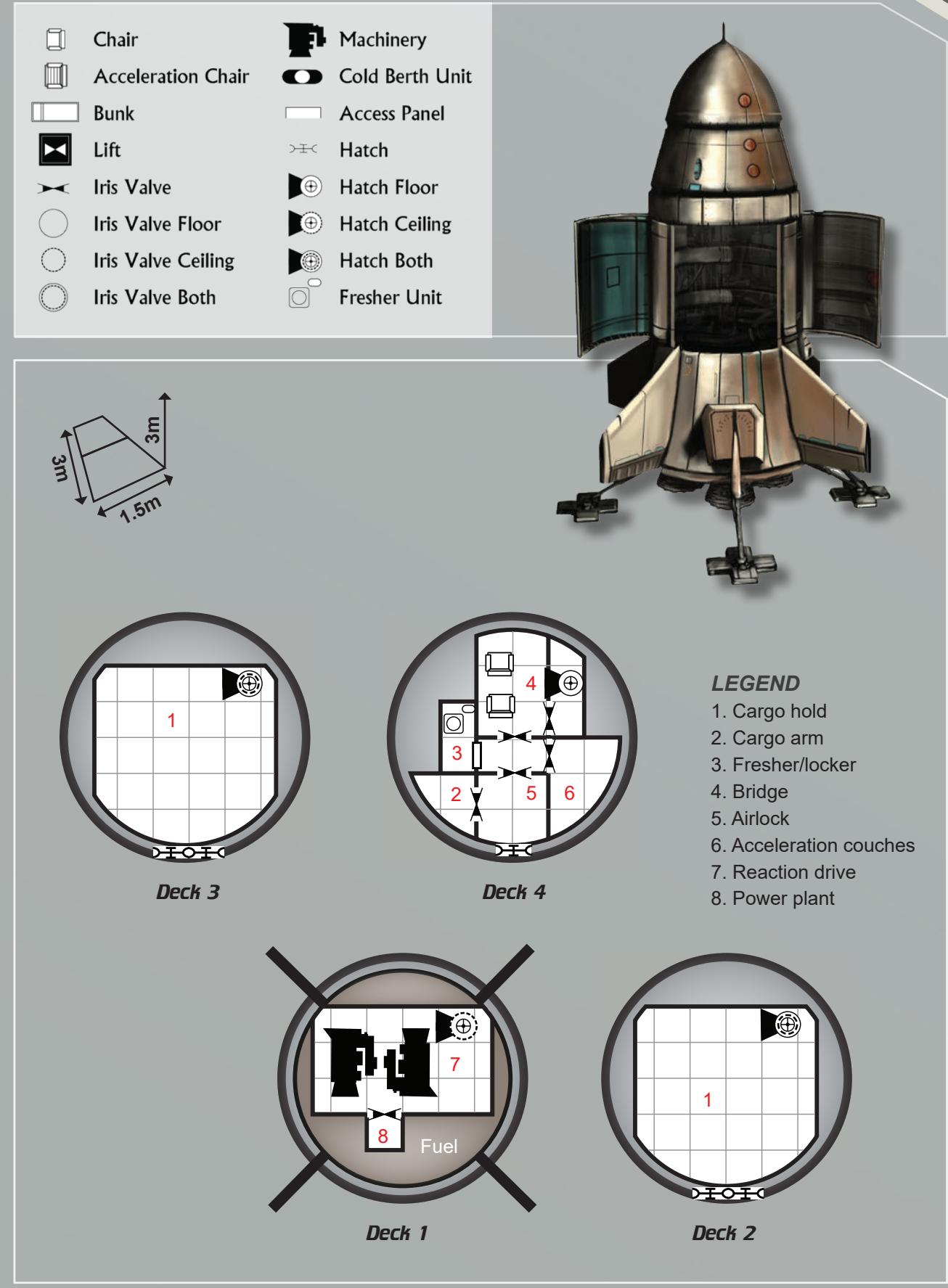
TL11		Tons	Cost (MLv)
Hull	40-ton Composite Ballistic	—	1.2
Hull Features	Heat Shield, Frontier Operations	—	0.66
Armour	2	0.4	0.24
Reaction Drive	Thruster (low-orbit)	1.4	0.7
Power Plant	MHD Turbine (Power 6)	0.6	0.24
Fuel Tanks	Thruster (7 Burns) Power Plant (24 hours)	7 0.216	— —
Radiators	Conventional, Capacity 6	0.8	0.04
Bridge	Flight Deck	3	0.25
Computer	Primary: Computer/5 Secondary: Computer/5	—	0.06
Sensors	Minimal	—	—
Weapons	Pintle Mounts x2	—	—
Systems	Ship's Locker, Simple Fresher, Safety Locker Cargo Arm	0.75 1	0.155 0.15
Airlocks	Standard Airlock	2	0.02
Accommodations	Acceleration Couches x6	1.5	0.18
Software	Archive, Intellect, Manoeuvre	—	—
Cargo		21.71	—
Total: MLv5.74			

Crew	Passengers	Hull Points	Signature: 1
Pilots x2	6	4	Base Reflected: 1 Base Radiated: 0

Running Costs
Maintenance Cost: Lv470/month
Purchase Cost: MLv5.74

Power Requirements	Power
Basic Ship Systems	0.4
Reaction Drive	4
Sensors	1

JM-40 BALLISTIC LANDER



STARLIGHT LUXURY SPACEPLANE

NATION: Germany (Bavaria)
FIRST EXAMPLE LAID DOWN: 2295
MANUFACTURER: Baustoffe Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 40 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Germany, United States, Australia
NUMBER IN SERVICE: 17+
LENGTH: 22 m
WIDTH: 3.4 m
WINGSPAN: 18.19 m
TAKE-OFF MASS (FULLY FUELLED): 375 tons
POWER PLANT: Hyde Everburn J-2 1.4 MW MHD Turbine
REACTION DRIVE: Baustoffe Mjolnir-B Air-Breathing Thruster, 1,500 tons thrust
Atmospheric Flight Speed (standard density/pressure): 4,500 km/h
TAKE-OFF ROLL: 400 m
LANDING ROLL, UNPOWERED: 900 m

LANDING ROLL, POWERED: 300 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 Hour per Burn

The Starlight is a small luxury spaceplane, often found on luxury liners and in the hands of wealthy spacefarers. It is a very capable craft, hypersonic and fully VTOL. Some are equipped with laser-based anti-missile systems and countermeasures to protect them from attack in the atmosphere. Others are rumoured to be armed to keep attackers away from the wealthy cocooned inside the craft.

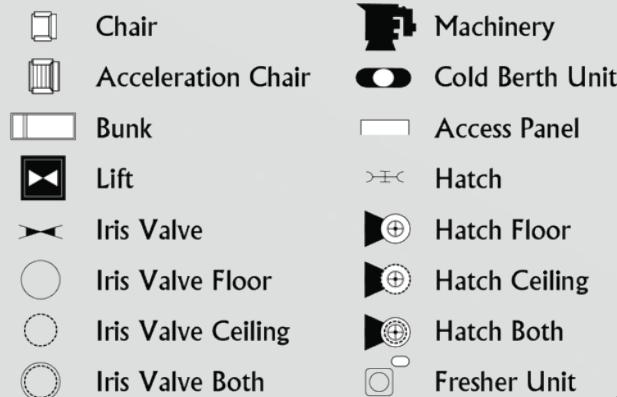
In addition to its performance and defensive measures, the Starlight is designed to serve as a home base for a wealthy person and their entourage.

The Starlight has an additional Burn of fuel for orbital operations and to increase its operational world size range.

TL12	Tons	Cost (MLv)
Hull 50-ton Synthetic Airframe	—	1.3
Hull Features Advanced, Heat Shield, VTOL	1	1.75
Reaction Drive Thruster (advanced, air-breathing)	1	1.25
Power Plant MHD Turbine (Power 14)	1.5	0.55
Fuel Tanks Thruster (7 Burns)	8.75	—
Power Plant (12 hours)	0.54	—
Radiators Conventional, Capacity 14	1.4	0.075
Bridge Flight Deck, with Neural Link, Encrypted Comms	3.0	1.271
Computer Primary: Computer/10 Secondary: Computer/5	—	0.095
Software Archive, Intellect, Manoeuvre, Neural Interface	—	2
Sensors Basic Military, Basic Survey	5	4.5
Weapons Anti-Missile Laser	0.8	0.41
Systems Safety Locker, Simple Fresher, Ship's Locker, Fresher, Office, Galley for 2	9	0.79
Airlocks Standard Airlock	—	—
Accommodations Luxury Suite, Small Staterooms x3	14	1.3
Life Support 7 Days	0.7	—
Consumables		
Cargo	4.85	—
Total: MLv13.53		

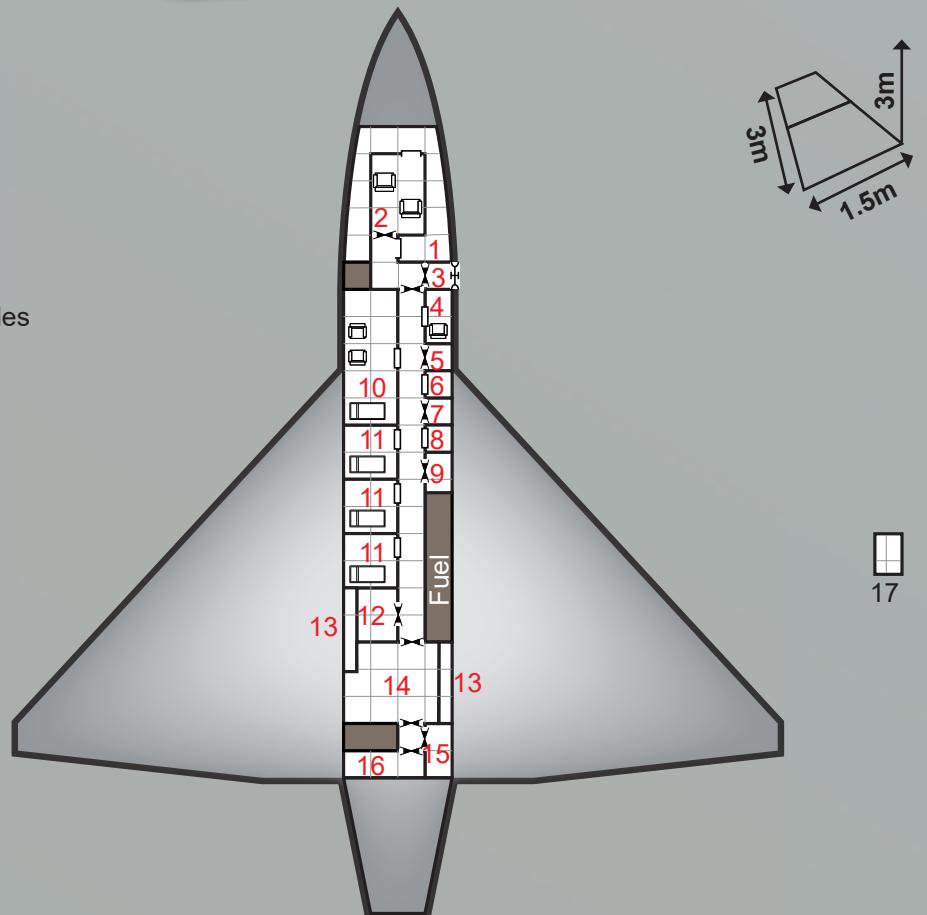
Crew	Passengers	Hull Points	Signature: 2
Pilots x2	3	5	Base Reflected: 0 Base Radiated: 2

STARLIGHT LUXURY SPACEPLANE



LEGEND

1. Sensors
2. Bridge
3. Airlock
4. Office
5. Safety locker
6. Fresher
7. Ship's locker
8. Simple fresher
9. Life support consumables
10. Luxury suite
11. Small stateroom
12. Galley
13. Radiators
14. Cargo hold
15. Reaction drive
16. Power plant
17. Anti-missile laser



Running Costs

Maintenance Cost: Lv1128/month
Purchase Cost: MLv13.53

Power Requirements

	Power
Basic Ship Systems	0.25
Reaction Drive	5
Sensors	6
Weapons	1

BISON CARGO LANDER

NATION: Canada
FIRST EXAMPLE LAID DOWN: 2261
MANUFACTURER: Khowutzun Aerospace Engineering
PRODUCTION STATUS: Out of Production
CONSTRUCTION TIME: 13 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Canada, Manchuria, Mexico
NUMBER IN SERVICE: 17+
LENGTH: 19.3 m
WIDTH: 6.44 m
WINGSPAN: 7.73 m
TAKE-OFF MASS (FULLY FUELLED): 3,540 tons
POWER PLANT: Manchurian Space Power Systems CF4 0.4 MW Fuel Cell
REACTION DRIVE: American Linear Reaction Products 'Buffalo-A' Scramjet 1,800 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 800 km/h
TAKE-OFF ROLL: 240 m

LANDING ROLL, UNPOWERED: 405 m
LANDING ROLL, POWERED: 135 m
MAXIMUM AIRSPEED: Subsonic
CRUISING AIRSPEED: Very Fast
ENDURANCE: 1 Hour per Burn

Initially designed for the Hudson's Bay freighter, the Bison has since come into widespread use as a frontier transport workhorse. It combines rough field capability with short take-off and landing runs, and can operate from lakes and even large, calm rivers.

Most of the interior of the Bison is taken up with the large cargo bay, which features a large rear door for loading and unloading.

The Bison has an additional Burn of fuel for orbital operations and to increase its operational world Size range.

TL10		Tons	Cost (MLv)
Hull	60-ton Composite Lifting Body	—	2.04
Hull Features	Heat Shield, STOL, Hydrodynamic, Frontier Operations	3.6	1.38
Reaction Drive	Rocket (air-breathing, advanced)	3.6	4.5
Power Plant	Fuel Cell (Power 4)	0.89	0.8
Fuel Tanks	Rocket (7 Burns)	16.8	—
	Power Plant (24 hours)	0.0864	—
Radiators	Conventional, Capacity 4	0.4	0.02
Bridge	Flight Deck	3	0.25
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Minimal	—	—
Systems	Safety Locker, Simple Fresher, Ship's Locker	0.75	0.155
	Cargo Arm, Retractable	1	0.15
Airlocks	Standard Airlock	—	—
Accommodations	Acceleration Couches x4	1	0.12
Software	Archive, Intellect, Manoeuvre	—	1
Cargo		28.9	—
Total: MLv9.25			

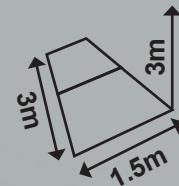
Crew	Passengers	Hull Points	Signature: 0
Pilots x2	0	7	Base Reflected: 0 Base Radiated: 0

Running Costs
Maintenance Cost: Lv771/month
Purchase Cost: MLv9.25

Power Requirements	Power
Basic Ship Systems	0.6
Sensors	1

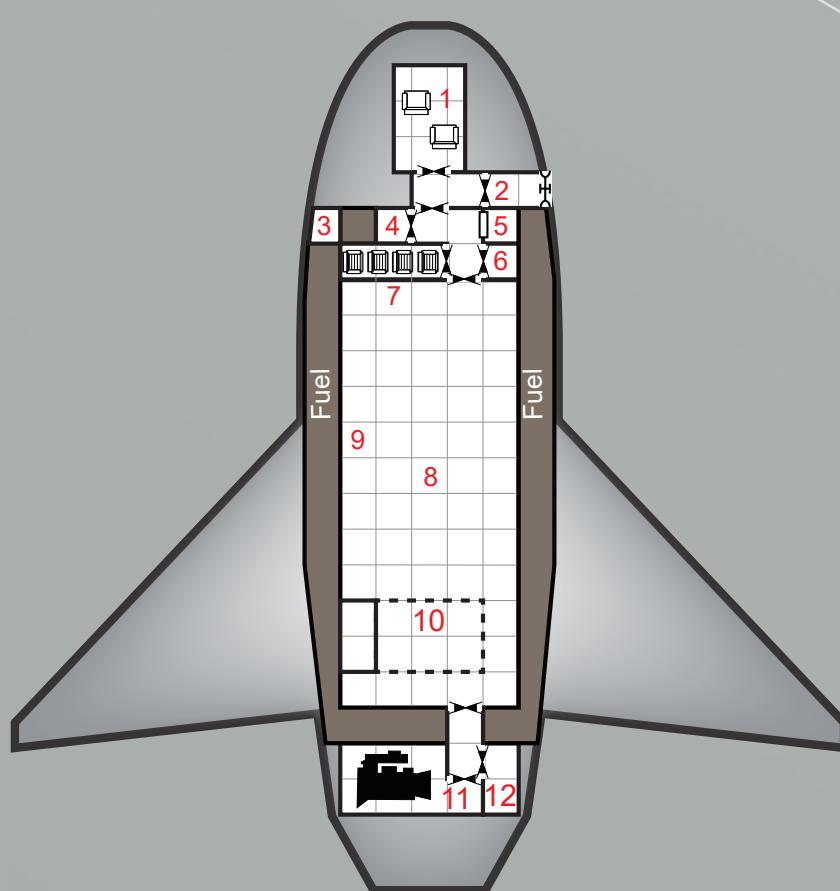
BISON CARGO LANDER

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit



LEGEND

1. Bridge
2. Airlock
3. Radiators
4. Safety locker
5. Simple fresher
6. Ship's locker
7. Acceleration couches
8. Cargo hold
9. Cargo arm
10. Cargo door
11. Reaction drive
12. Power plant



SMALL CRAFT

TRILON WORKERBEE

NATION: United States
FIRST EXAMPLE LAID DOWN: 2282
MANUFACTURER: Trilon Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 2 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: United States, Australia, France
NUMBER IN SERVICE: 2,000+
LENGTH: 8 m
WIDTH: 3 m
LAUNCH MASS (FULLY FUELLED): 4 tons
POWER PLANT: Hyde Evercell 1 kw fuel cell, 12 hour duration
REACTION DRIVE: Trilon 'Hummingbird' OMS clusters

The WorkerBee is a small, multi-purpose craft designed for work around stations, ships and habitats. Equipped with a large manipulator arm, two smaller arms and a variety of tools, the WorkerBee and similar models are a common sight around orbital stations all over human space. Some ships, like the CargoMax, carry a pair to assist in loading and off-loading. The WorkerBee is also used in ship construction and maintenance, and easily modified for a variety of tasks. Its fuel endurance is limited but in the environs of stations and orbital docks this is not a large concern.

Name	WorkerBee
Country	United States
TL	10
Skill	Pilot (small craft)
Agility	1
Speed (Cruise)	Very Slow (Idle)
Range (Cruise)	75 km (112.5 km)
Crew	1
Passengers	1
Cargo	0.5 tons
Hull	16
Shipping Size	1.5 tons
Cost	Lv151900

Features

Neural Interface, Advanced Controls, Enhanced Autopilot, Basic Navigation, Basic Comms, Computer/5, Improved Sensors, Entertainment System, Vacuum Environment Protection, Short Term Life Support, Advanced Manipulators x2, Medium Cargo Arm

LANGUST ASTEROID MINER (SEEKER)

NATION: Russia
FIRST EXAMPLE LAID DOWN: 2282
MANUFACTURER: Koralov Aerospace
PRODUCTION STATUS: Out of Production
CONSTRUCTION TIME: 102 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Russia, Ukraine, Independent Belters
NUMBER IN SERVICE: 37
LENGTH: 39 m
WIDTH: 18 m
LAUNCH MASS (FULLY FUELLED): 2,255 tons
POWER PLANT: Directorate of Nuclear Engineering BV-21 12 MW Fission Reactor
REACTION DRIVE: Kosmatom HLO-8 Nuclear OMS Thruster, 2,200 tons thrust
STUTTERWARP DRIVE: L'Etage J-50 0.5 MW Gen II Jerome-effect Stutterwarp

The small stutterwarp on the Langust (Russian for 'Rock Lobster') is barely suitable for a drone, let alone a spacecraft. However, the stutterwarp does not have to be quick. Most of the time, the Langust uses its reaction drive to match course and land on asteroids and comets, where it can stay for a long period of time.

Although the Langust appears to be large, much of that is fuel tankage for the plasma drive. The ship is equipped with exterior cargo nets to hold partially processed ore and long-term accommodations for the small crew.

Unusually for such a small vessel, the Langust is equipped with a thorium-fuelled nuclear fission plant. The excess power generated by this large power supply is used to power a small refinery/smelter and excess heat is used in the mining of various volatile materials.

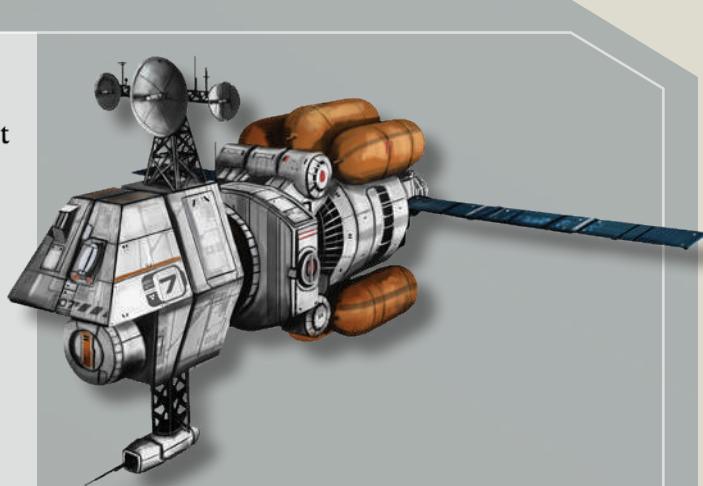
Most smaller mining vessels like this do not equip their mining lasers with target tracking ability. This version mounts a light TTA, allowing it to engage small vessels, albeit at very short range.

The *Langust* does not have any internal cargo capacity, with any cargo carried in nets attached to the outside of the hull. These cargo nets follow the same rules for performance as the sling, without requiring any power. While the ship is designed to operate with a full commercial crew, in practice they tend to operate with a much smaller crew, especially independent Belter vessels.

TL10		Tons	Cost (MLv)
Hull	220 ton Aligned Crystal Steel Spaceframe	—	7.7
Hull Features	Radiation Shield, Tough	—	3.3
Armour	2	5.5	0.44
Reaction Drive	Nuclear OMS Thruster	6.6	6.6
Stutterwarp	0.67 ly/day, Tac Speed: 1 System Speed: 0.43 AU/day	1.2	1.49
Power Plant	Fission Reactor (Power 120)	20	4
Emergency Power	Power 2.2 (8 hours)	0.352	0.352
Fuel Tanks	Nuclear OMS Thruster (20 Burns)	44	—
Radiators	Conventional, Capacity 120	12	0.6
Bridge	Small, Encrypted Comms,	10	2.1
Computer	Primary: Computer/15 Secondary: Computer/10	—	1.08
Software	Archive, Fire Control/1, Manoeuvre, Stutterwarp Control, Intellect	—	3.268
Sensors	Basic Nav Array, Basic Survey, DSS, GADS, Telescope	8.12	7.349
Weapons	G3 Laser Drill (surface mount)	3	0.95
Targeting	Light TTA (DM +0, Computer +1)	2	0.25
Systems	Autofactory, Automeds x2, Exercise Equipment for 5, Office, Safety Locker, Ship's Locker, Simple Freshers x2 Cargo Arm, Manipulators x2	40.5	13.935
Drones and Remotes	Inspection Remotes x4	1.1	0.31
Airlocks	Standard Airlocks x2	—	—
Accommodations	Small Staterooms x30, Stateroom	64	3.5
Life Support	28 Days	1.736	—
Consumables			
Cargo		1.39	—
Total: MLv48.31			

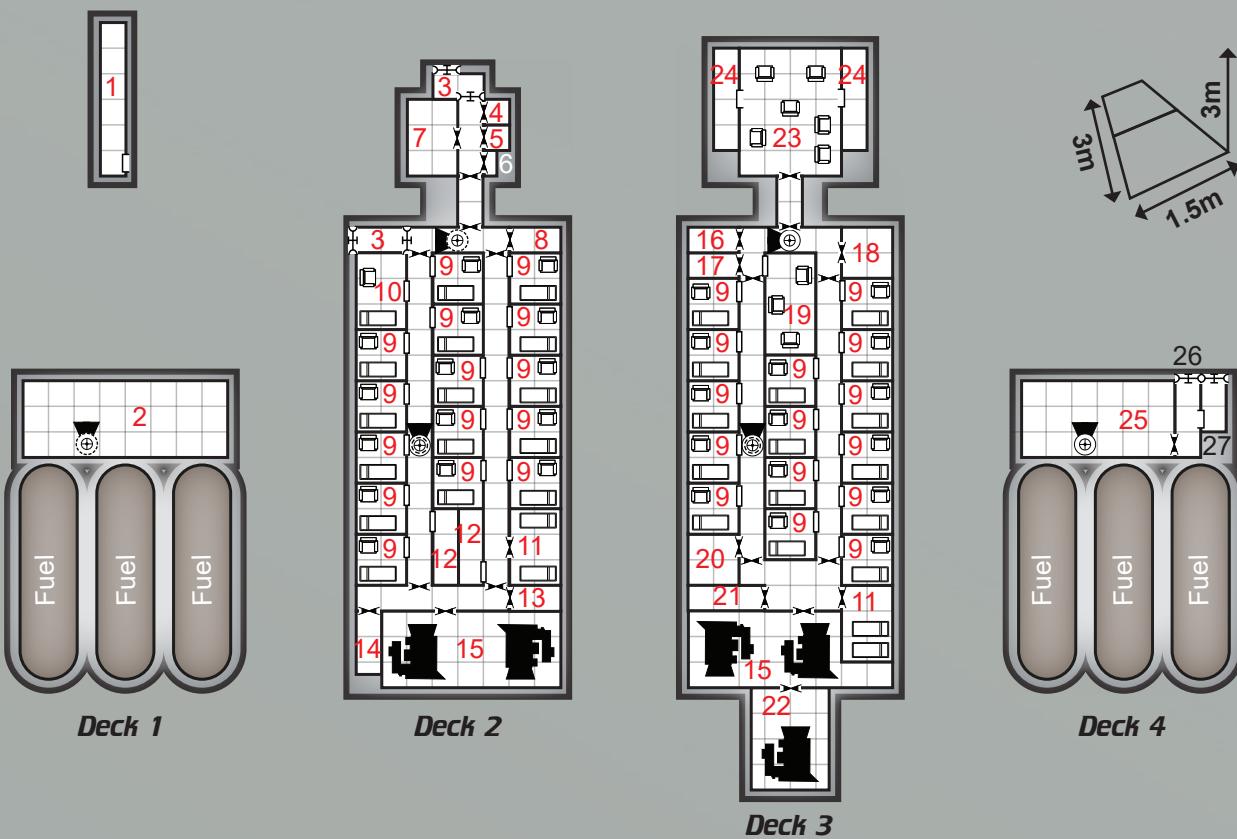
Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x6, Life Support Techs x2, Electronics Techs x2, Specialists x6 (Mining Techs) Comfort Rating: -1	—	26	Base Reflected: 2 Base Radiated: 3

Running Costs	Power Requirements	Power
Maintenance Cost: Lv4212/month	Basic Ship Systems	2.2
Purchase Cost: MLv50.54	Reaction Drive	22
	Stutterwarp	5
	Sensors	8
	Weapons	10

**LEGEND**

1. G3 laser
2. Autofactory
3. Airlock
4. GADS
5. Basic survey
6. Emergency power
7. Ship's locker
8. Basic navigational array

9. Small stateroom
10. Stateroom
11. Medbay
12. Simple fresher
13. Remotes
14. Stutterwarp
15. Power plant
16. Telescope
17. DSS
18. TTA
19. Office
20. Safety locker
21. Life support consumables
22. Reaction drive
23. Bridge
24. Sensors
25. Exercise room
26. Cargo hold
27. Cargo arm



MERCHANT VESSELS AND LINERS

The lifeblood of commerce are the merchant vessels, freighters and liners that move goods and people across the expanse of human space. While few are armed, increasing tensions in Manchurian space, and the encroaching threat of the Kaefers in the French Arm, has made the practice of carrying some weapon, even if only a PDC, more common.

BC-4

NATION: United Kingdom

FIRST EXAMPLE LAID DOWN: 2235

MANUFACTURER: British Cargo

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 70 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United Kingdom, Azania, Brazil

NUMBER IN SERVICE: 44

LENGTH: 69.58 m

WIDTH: 46.39 m

LAUNCH MASS (FULLY FUELLED): 3,500 tons

POWER PLANT: Royce Griffon II 4.6 MW MHD Turbine

REACTION DRIVE: British ExoSpace R35 3.5 MW OMS Thruster, 3,500 tons thrust

STUTTERWARP: British ExoSpace Albion v2 0.8 MW Gen II Jerome-effect Stutterwarp

In the early 2200s, British industry was booming and demand for raw materials outstripped what was available from terrestrial supplies, exceeding the limited amounts that French shipping concerns could deliver. Up to that point, Britain had possessed minimal starlift capability

but with increased industrial requirements, the Ministry of Industry and Trade announced a competition to produce an inexpensive freighter. British Cargo, previously a maker of system ships and interface vessels, submitted the BC-4, a relatively inexpensive design with significant cargo capacity.

The BC-4 is a modular freighter that can accept four of the standard 2210-Pattern 50-ton modules originally designed for the French Metal cargo hauler. Using this standard module design helped the newer ships mesh and interface well with existing port facilities and other ships. Thousands of these modules exist all over the French Arm and are most commonly used by French and British vessels.

The BC-4 is a very workmanlike vessel, fitted to perform its slated task but with little capability to do anything more. The ships are designed to operate with a skeleton crew and even with these minimal crews, quarters are small and cramped. Due to this, ESA nations do not permit the BC-4 to carry passengers.

These ships were once common but age is starting to take its toll. Some have found a new life, running into Aurore with only two pods attached. This gives the ship extended speed and endurance below Tithonus's Wall, with nearly 6 Burns available.

Crew	Passengers	Hull Points	Signature: 2
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineer, Life Support Tech, Electronics Tech, Small Craft Operator Comfort Rating: -1	—	12	Base Reflected: 2 Base Radiated: 2 Full Pod Load: +1

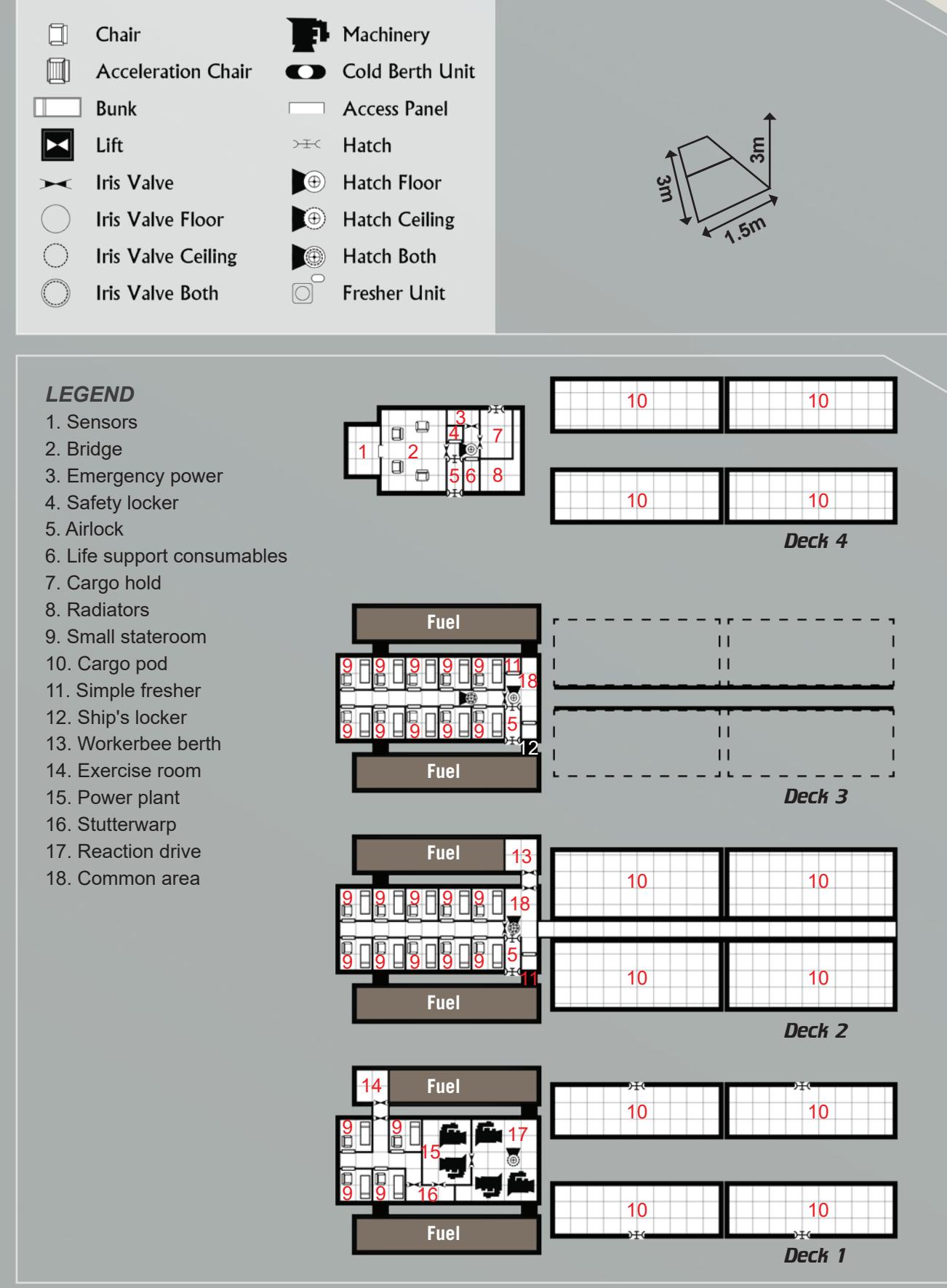
TL10		Tons	Cost (MLv)
Hull	350-ton Aligned Crystal Steel Dispersed Structure	—	5.25
Reaction Drive	OMS Thruster	10.5	4.2
Stutterwarp	0.68 ly/day, Tac Speed: 1 (1.03 ly/day unloaded) System Speed: 0.43 AU/day)	1.51	1.89
Power Plant	MHD Turbine (Power 46)	5.75	1.44
Emergency Power	Power 3.5 (24 hours)	0.84	0.84
Fuel Tanks	OMS Thruster (4 Burns, 9 Burns unloaded)	42	—
	Power Plant (2 weeks)	23	—
Radiators	Conventional, Capacity 46	4.6	0.23
Bridge	Small	10	1.75
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.272
Sensors	Basic Nav Array, DSS	3	1.6
Weapons	Hardpoint	—	0.1
Systems	Common Areas (5 tons), Exercise Equipment for 3, Safety Lockers x2, Ship's Locker, Simple Fresher	8.75	1.455
	Cargo Tree, Cargo Pods (50 tons) x4	210	11
Sub-Craft	WorkerBee in Berth	1.65	4.285
Airlocks	Standard Airlocks x3	—	—
Accommodations	Small Staterooms x12	24	1.2
Life Support	28 days for 12 people	0.67	—
Consumables			
Cargo		3.23	—
Total: MLv32.94			

Running Costs

Maintenance Cost: Lv2745/month
Cargo Pod Cost: MLv0.25 each
Purchase Cost: MLv33.94
(MLv32.94 without pods)

Power Requirements	Power
Basic Ship Systems	3.5
Reaction Drive	35
Stutterwarp	8
Sensors	2





COMMERCANT DROP-CARGO CARRIER**NATION:** France**FIRST EXAMPLE LAID DOWN:** 2280**MANUFACTURER:** L'Étage Aerospace**PRODUCTION STATUS:** Out of Production**CONSTRUCTION TIME:** 54 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** France, Azania, Private**NUMBER IN SERVICE:** 225**LENGTH:** 38.49 m**WIDTH:** 19.25 m**LAUNCH MASS (FULLY FUELLED):** 1,500 tons**POWER PLANT:** Giscard LS-7 7 MW MHD Turbine**REACTION DRIVE:** L'Étage Step 5 Advanced OMS**Thruster,** 2,000 tons thrust**STUTTERWARP:** L'Étage J-50 5 MW Gen II Jerome-effect Stutterwarp

The Commercant is common to the French Arm, although similar designs are frequently seen on the Manchurian Arm. The forward mandible structure can carry a drop pod of up to 200 tons, although the 160-ton TerraFuse DRV-4 is the most common type seen in use with these ships.

Drop-cargo has several advantages on the frontier. Many colony worlds do not have effective interface transport, certainly not up to handling heavy cargos. At the same time, most merchant vessels rely on interface transport at their destinations, due to the expense of operating landers.

The Commercant fills this gap, transporting an aeroshell cargo pod, which can be dropped to the surface of any atmospheric world. These pods can transport prefab buildings, vehicles, heavy machinery and other required resources. Although the pod itself is expensive, the drop-cargo approach is a boon to struggling colony worlds.

The Commercant itself is a cramped vessel that can take up to six passengers, although this is uncommon due to its cramped quarters and uncomfortable design. Stripped of cargo, the ship can make good time but when pushing a loaded cargo pod it slows considerably.

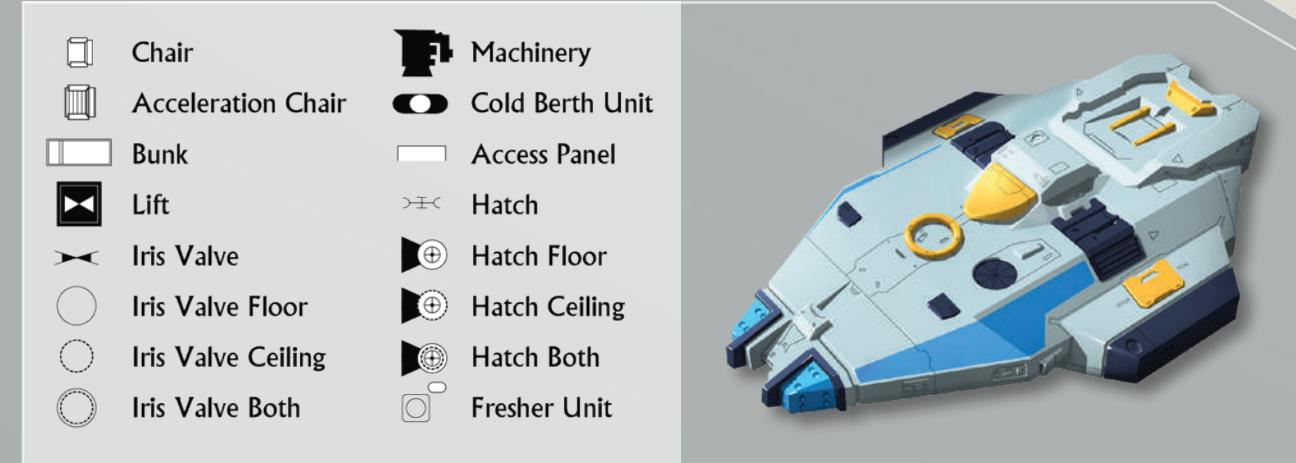
Running Costs

Maintenance Cost: Lv2411/month

Purchase Cost: MLv28.93

TL10		Tons	Cost (MLv)
Hull	200-ton Synthetic Spaceframe	—	4.8
Reaction Drive	OMS Thruster (advanced)	5.4	4.8
Stutterwarp	2.35 ly/day, Tac Speed: 2 System Speed: 1.52 AU/day	3.78	4.72
Power Plant	MHD Turbine (Power 70)	43.75	2.19
Fuel Tanks	Orbital Thruster (6 Burns)	32.4	—
	Power Plant (2 weeks)	35	—
Radiators	Conventional, Capacity 70	7	0.35
Bridge	Standard	10	1
Computer	Primary: Computer/15 Secondary: Computer/10	—	0.095
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.94
Sensors	Basic Nav Array	1	0.1
Weapons	Hardpoint	—	0.1
Systems	Exercise Equipment for 6, Safety Locker, Ship's Locker, Simple Fresher, Workshop	14.75	5.655
	Grappling Arms x2, Sling (200 tons)	14	2.2
Airlocks	Standard Airlocks x2	—	—
Accommodations	Small Staterooms x27	54	2.7
Life Support	28 Days	1.512	—
Consumables		—	—
Cargo		9.91	—
Total: MLv28.93			

COMMERCANT DROP-CARGO CARRIER

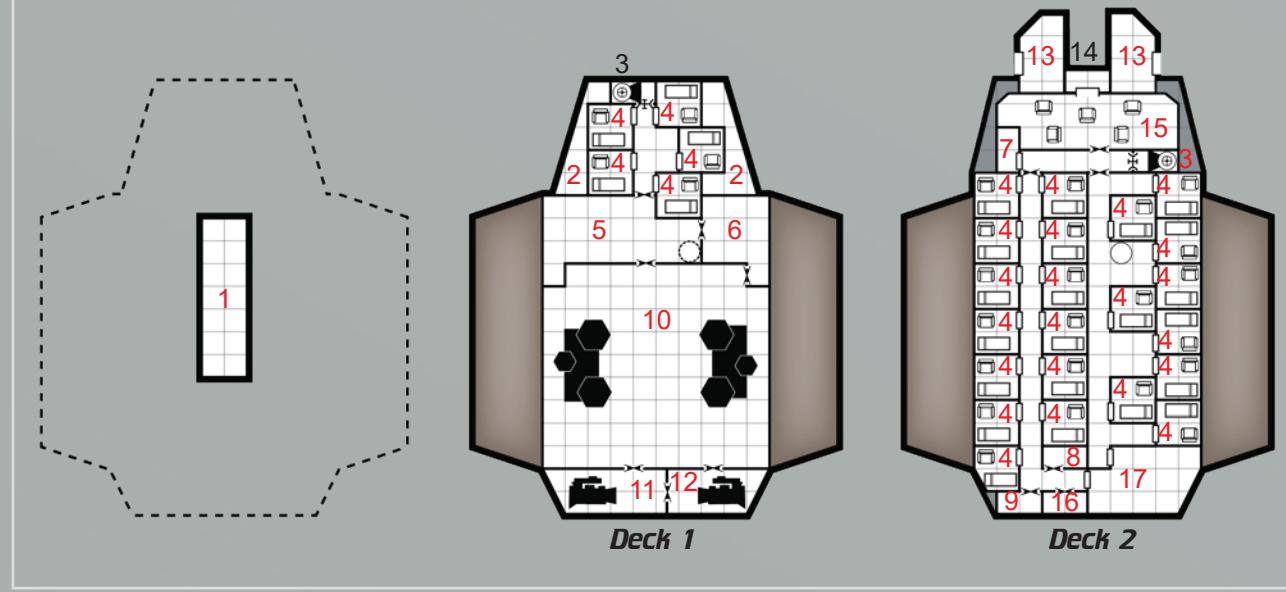
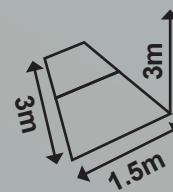


LEGEND

1. Sling (ventral)
2. Radiators
3. Airlock
4. Small stateroom
5. Cargo hold
6. Workshop

7. Simple fresher
8. Safety locker
9. Ship's locker
10. Power plant
11. Reaction drive
12. Stutterwarp

13. Grapping arm
14. Sensors
15. Bridge
16. Life support consumables
17. Exercise Room



Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2 Comfort Rating: +1	6	20	Base Reflected: 1 Base Radiated: 2

Power Requirements	Power
Basic Ship Systems	2
Reaction Drive	20

Power Requirements	Power
Stutterwarp	50
Sensors	2

TIANJIN HEAVY FREIGHTER**NATION:** Manchuria**FIRST EXAMPLE LAID DOWN:** 2290**MANUFACTURER:** Star City Aerospace**PRODUCTION STATUS:** In Production**CONSTRUCTION TIME:** 573 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Manchuria**NUMBER IN SERVICE:** 12**LENGTH:** 113 m**WIDTH:** 75 m**LAUNCH MASS (FULLY FUELLED):** 11,250 tons**POWER PLANT:** Star City Power Systems Prime 50 25

MW Fission Reactor

REACTION DRIVE: Star City Power Systems 'Victor'

Advanced Nuclear OMS Thruster, 15,000 tons thrust

STUTTERWARP: MASIC K-200 18MW Gen II Jerome-Effect Stutterwarp

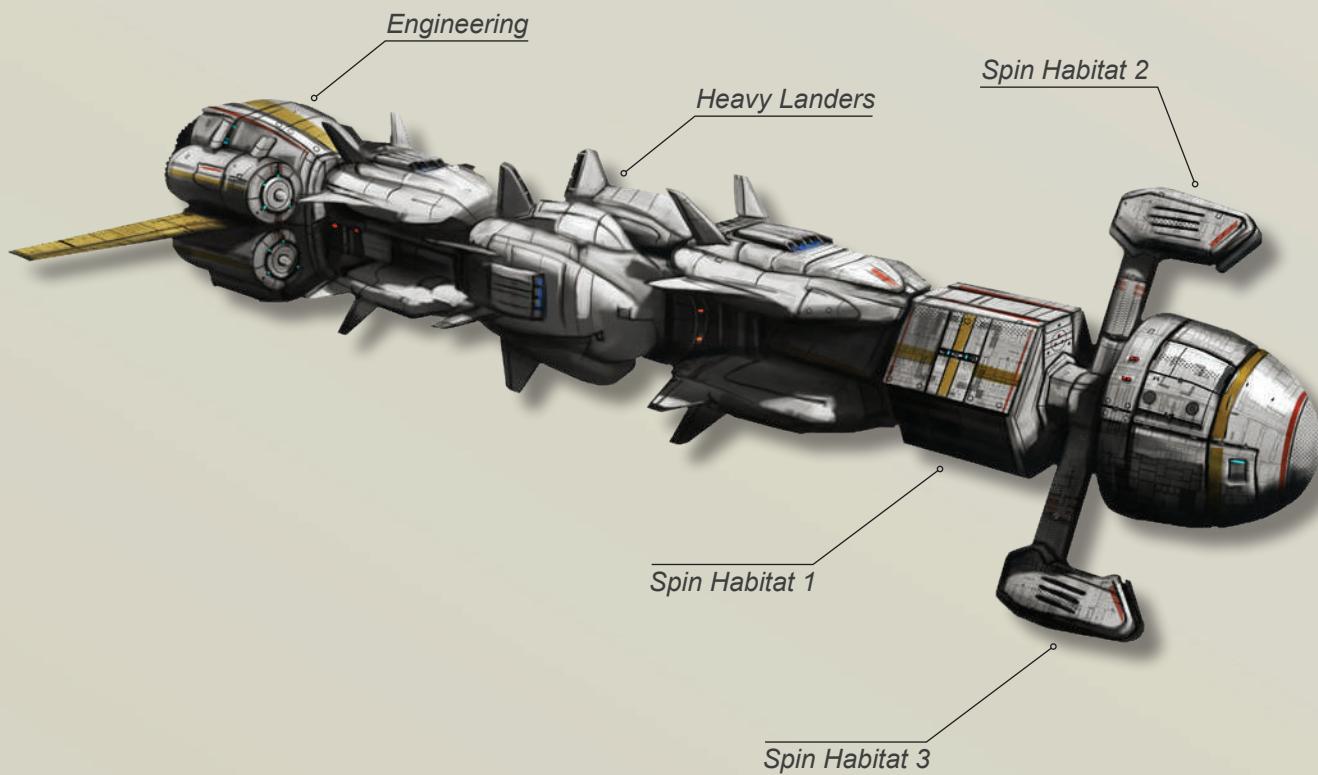
The Tianjin is very common across the Manchurian Arm and into the Core, although almost never spotted on one of the other Arms. All cargo is carried in heavy landers mounted in fitted, protected berths, allowing a rapid turnaround and compensating for the many

spaceports that lack significant heavy lift ability. While this is an expensive approach, the utility of these craft in wartime makes it worthwhile.

While there is space to carry passengers, it is more common for crews to use the additional accommodation for themselves.

Despite the heavy load from landers and their cargo, the fission power plant gives the Tianjin good speed, for a civilian vessel, and it is often used for priority shipments. The Consolidated Manchurian Shipping Company (CMSC) runs some of these ships between the Core and a few worlds along the Arm. At Chengdu and Syuhlam, the company has stationed 12 landers, enough to reload two ships at once and get them on their way, with pauses only required for discharging. For this reason, the Tianjin is one of the few civilian vessels equipped with discharge vanes.

The Tianjin's reactor does not generate enough power to meet the requirements of every element on the ship. However, since neither the OMS thruster nor discharge vanes will operate at the same time as the stutterwarp, it was considered an acceptable trade-off.

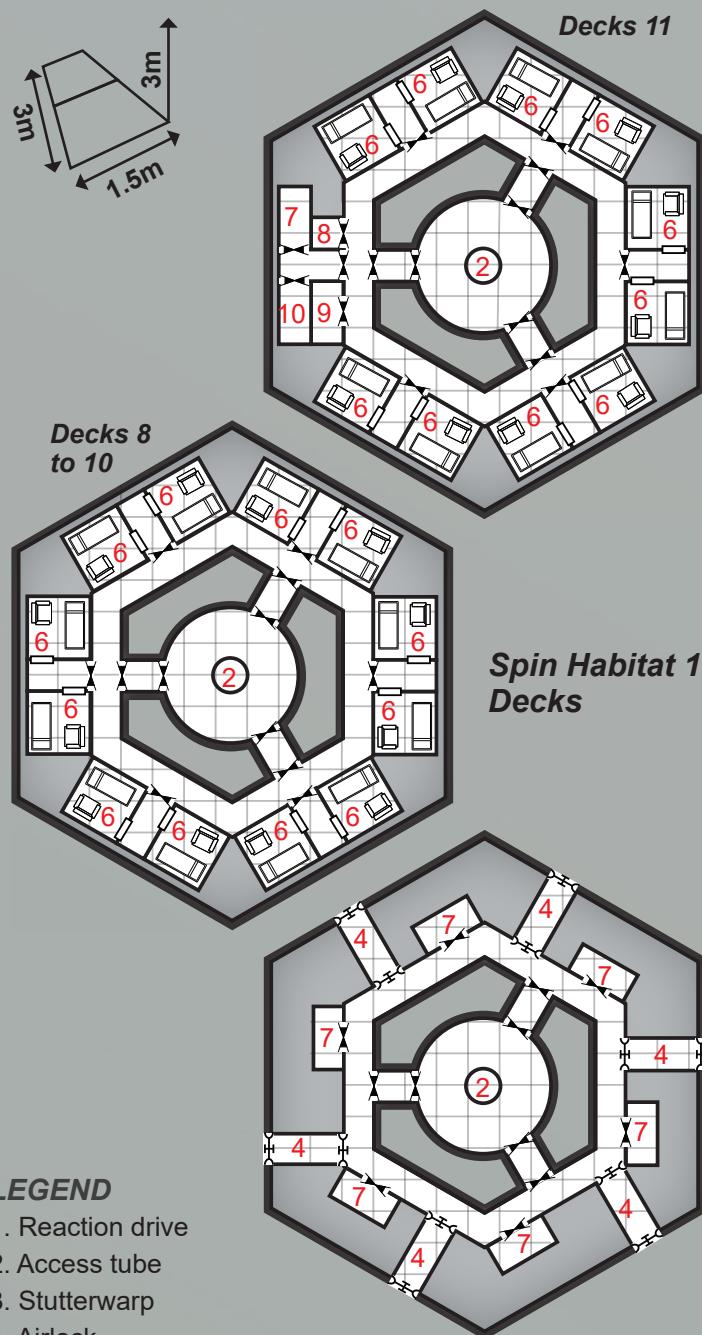
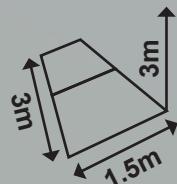
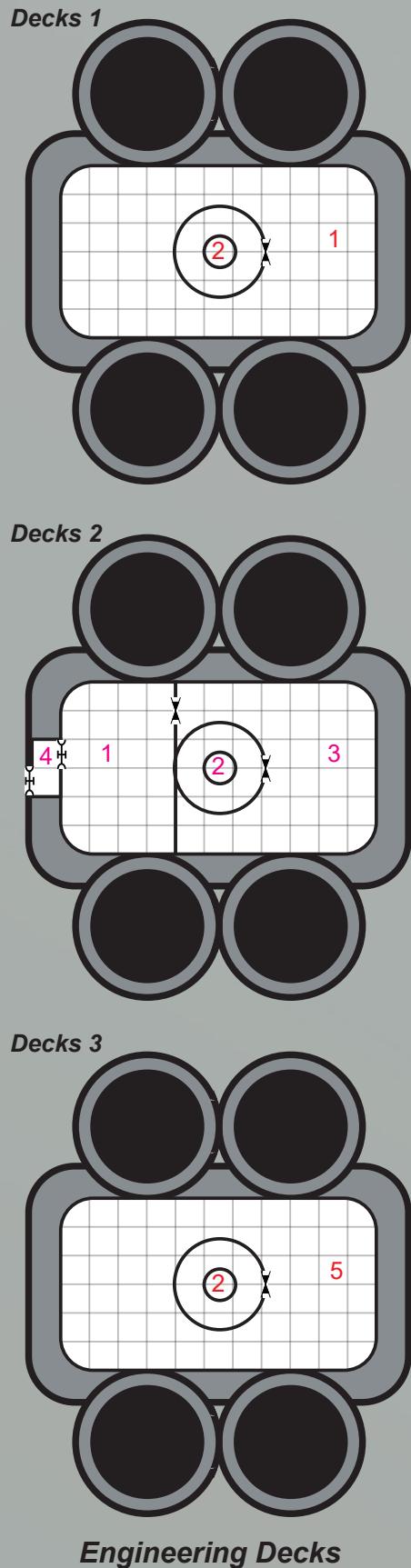


TIANJIN HEAVY FREIGHTER

TL11		Tons	Cost (MLv)
Hull	1,500-ton Synthetic Dispersed Structure	—	28.5
Reaction Drive	Nuclear OMS Thruster (advanced)	40.5	90
Stutterwarp	1.95 ly/day, Tac Speed: 2 System Speed: 1.26 AU/day, Discharge Vanes	11.21	22.42
Power Plant	Fission Reactor (Power 280)	35	14
Emergency Power	Power 15 (24 hours)	5.4	16.2
Fuel Tanks	Nuclear OMS Thruster (6 Burns)	81	—
Radiators	Conventional, Capacity 280	25	1.25
Bridge	Standard, Encrypted Comms	40	8.5
Computer	Primary: Computer/25 Secondary: Computer/15	—	12
Sensors	Basic Military, DSS, GADS	4.671	6.942
Weapons	Hardpoints x2	—	0.2
Systems	Under Spin: Common Areas (12 tons), Exercise Equipment for 10, Safety Locker, Ship's Locker Zero-G: Simple Fresher, Workshop	31	7.88
Drones and Remotes	Repair Remotes x5	0.55	1.055
Sub-Craft	HL-150 Landers x6 in Berth	990	9.9
Airlocks	Standard Airlocks x15	—	—
Accommodations	Under Spin: Small Staterooms x46	92	4.6
Artificial Gravity	Type: Spin Capsules (115.5 tons Under Spin) Radius: 30 m, 2 RPM, Gravity: 0.13 G, Spin Up/Down: 7.8 minutes	12.71	6.35
Software	Archive, Auto-Repair/1, Intellect, Manoeuvre, Stutterwarp Control	—	6.78
Life Support Consumables	28 Days for 45 People	2.52	—
Cargo		130.69	—
Total: MLv286.36			

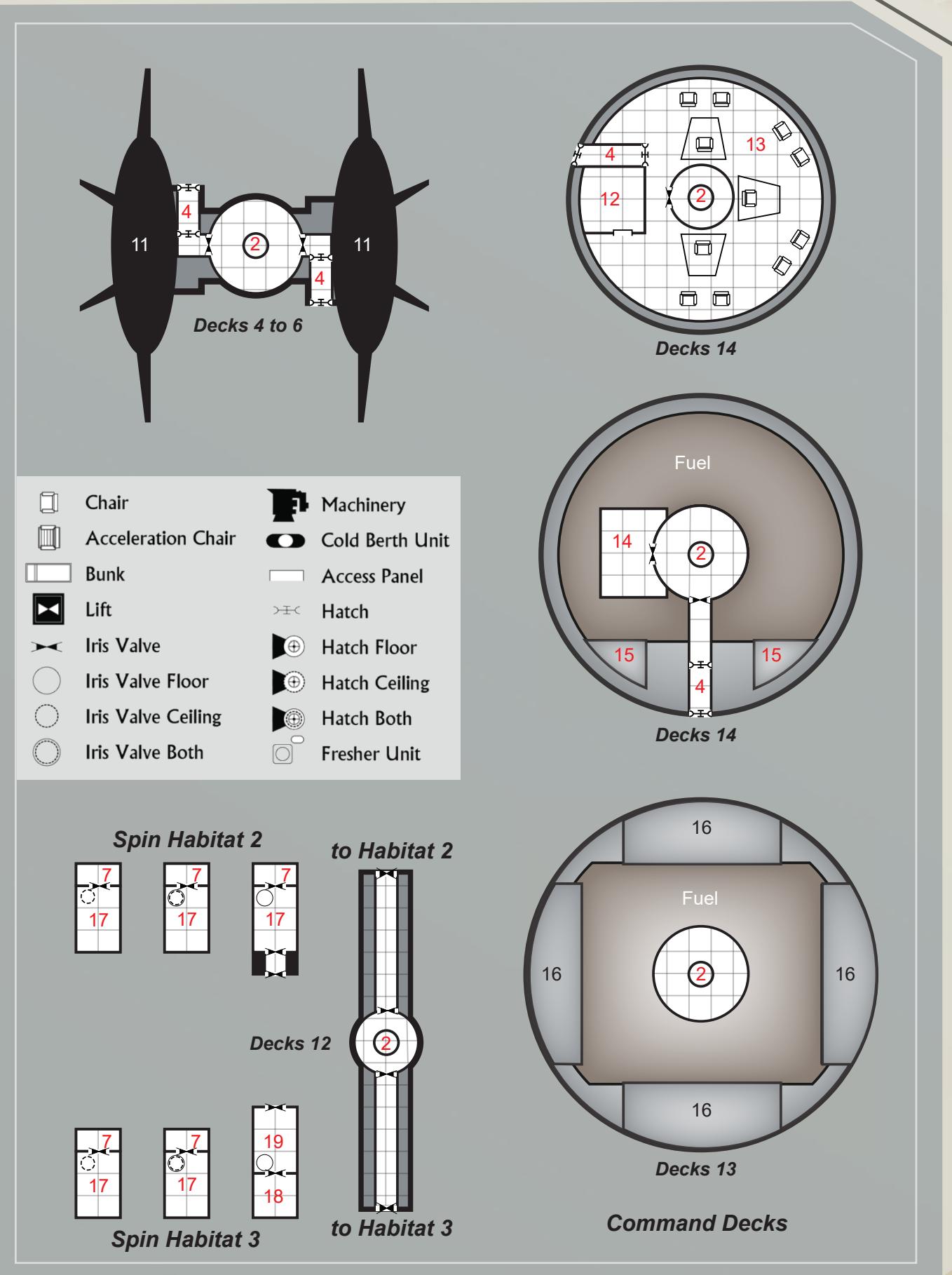
Crew	Passengers	Hull Points	Signature: 4
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x12, Life Support Techs x2, Electronics Techs x2, Small Craft Techs x3, Administrators x3, Small Craft Crew x12 Comfort Rating: +0	6	20	Base Reflected: 4 Base Radiated: 3 Discharge Vanes Extended: +1

Running Costs	Power Requirements	Power
Maintenance Cost: Lv23863/month	Basic Ship Systems	15
Purchase Cost: MLv286.36	Reaction Drive	150
	Stutterwarp	180
	Discharge Vanes	30
	Sensors	10

**LEGEND**

1. Reaction drive
2. Access tube
3. Stutterwarp
4. Airlock
5. Power plant
6. Small stateroom
7. Spin capsule
8. Ship's locker
9. Safety locker
10. Remotes
11. Heavy landers
12. Sensors
13. Bridge
14. Emergency power
15. Hardpoint
16. Radiators
17. Common area
18. Life support consumables
19. Exercise room

TIANJIN HEAVY FREIGHTER



HL-150 HEAVY LANDER

NATION: Manchuria
FIRST EXAMPLE LAID DOWN: 2288
MANUFACTURER: Manchurian Aerospace Science and Industry Corporation (MASIC)
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 30 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Manchuria
NUMBER IN SERVICE: 50+
LENGTH: 26 m
WIDTH: 8.5 m
WINGSPAN: 10.49
TAKE-OFF MASS (FULLY FUELLED): 1,140 tons
POWER PLANT: Star City Power Systems M2A1 2 MW MHD Turbine
REACTION DRIVE: MASIC Vantage Air-Breathing Thruster, 4,500 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 4,000 km/h
TAKE-OFF ROLL: 1,200 m

LANDING ROLL, UNPOWERED: 2,025 m
LANDING ROLL, POWERED: 67 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 Hour per Burn

The Tianjin carries six of these heavy landers, large lifting-body designs able to carry over 110 tons of cargo internally. When landed, the HL-150 can lower its entire cargo bay to the ground and lift itself up from the platform to grant access to the cargo. Cargo is often of the RORO (Roll-On/Roll-Off) variety, further decreasing the turnaround time.

The HL-150 is not a graceful flyer and requires a prepared runway surface for landing and taking off. Passenger capacity on the HL-150 is limited, although passenger modules are available.

The HL-150 has an additional Burn of fuel for orbital operations and to increase its operational world Size range.

TL11		Tons	Cost (MLv)
Hull	150-ton Synthetic Lifting Body	—	8.7
Hull Features	Heat Shield, Advanced	—	4.5
Armour	2	2.4	0.48
Reaction Drive	Thruster (air-breathing, advanced)	3	3.75
Power Plant	MHD Turbine (Power 20)	2.24	0.8
Fuel Tanks	Thruster (7 Burns)	26.25	—
	Power Plant (12 hours)	0.24	—
Radiators	Conventional, Capacity 20	2	0.1
Bridge	Flight Deck, Encrypted Comms	3	1.25
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Software	Archive, Intellect, Manoeuvre	—	1
Sensors	Basic Nav Array	1	0.1
Weapons	Hardpoint	—	0.1
Systems	Safety Locker, Simple Fresher	0.25	0.055
Airlocks	Standard Airlocks x2	—	—
Accommodations	Acceleration Couch x4	1	0.12
Cargo		112.61	—
Total: MLv14.68			

Crew	Passengers	Hull Points	Signature: 2
Pilots x2	4	16	Base Reflected: 0 Base Radiated: 2

Power Requirements	Power
Basic Ship Systems	1.5
Reaction Drive	15
Sensors	2

Running Costs

Maintenance Cost: Lv1223/month
Purchase Cost: MLv14.68

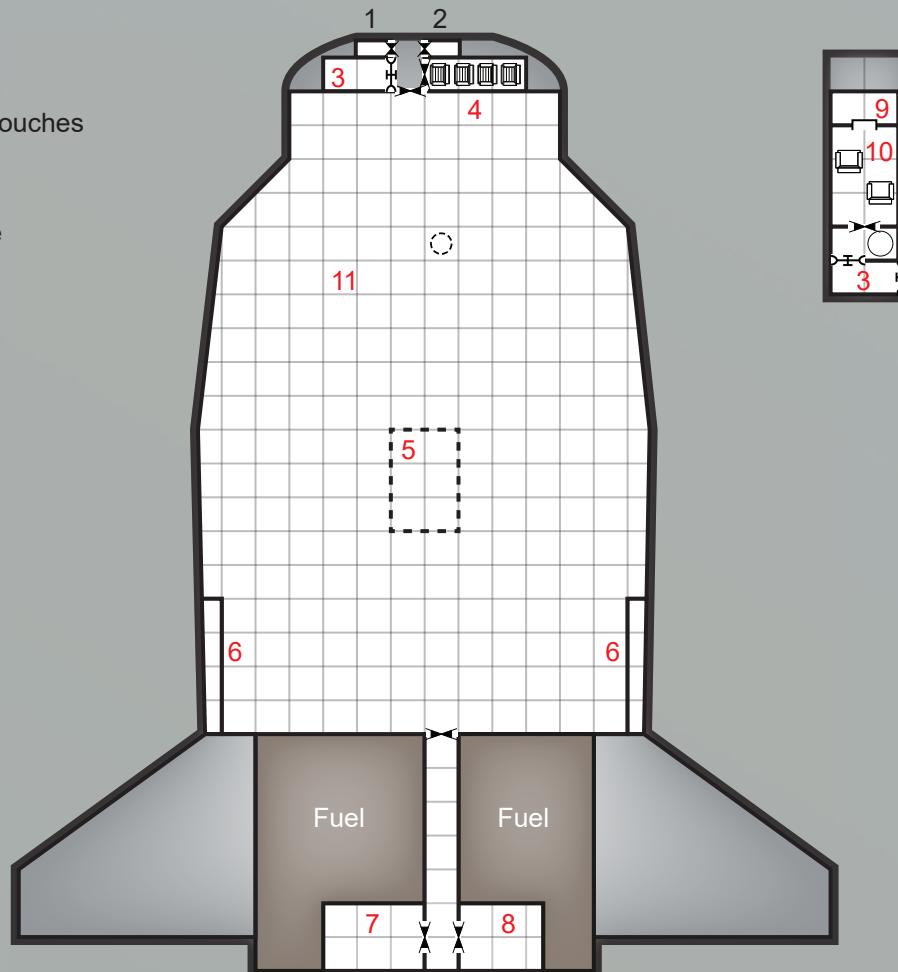
HL-150 HEAVY LANDER

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit



LEGEND

1. Safety locker
2. Ship's locker
3. Airlock
4. Acceleration couches
5. Cargo door
6. Radiators
7. Reaction drive
8. Power plant
9. Sensors
10. Bridge
11. Cargo Hold



HUDSON'S BAY FREIGHTER**NATION:** Canada**FIRST EXAMPLE LAID DOWN:** 2211**MANUFACTURER:** DeMarchand Aerospace Systems**PRODUCTION STATUS:** Out of Production**CONSTRUCTION TIME:** 79 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Canada, Brazil, Independent**NUMBER IN SERVICE:** 80**LENGTH:** 52 m**WIDTH:** 26 m**LAUNCH MASS (FULLY FUELLED):** 5,000 tons**POWER PLANT:** Northern Dynamics T-60 6 MW MHD Turbine**REACTION DRIVE:** American Linear Reaction Products Hydra-4 OMS Thruster, 5,000 tons thrust**STUTTERWARP:** MASIC EK-40 3.5 MW Gen II Jerome-Effect Stutterwarp

Built by Canadian shipyards with Manchurian assistance, the Hudson's Bay was originally used to support and supply the outposts on the way, and then the Kanata colony itself. Later, most were sold off but many remain in service on the Manchurian Arm, plying to and from many different worlds. Several still serve the Earth-Kanata-Chengdu route.

The Hudson's Bay is equipped with the Bison spaceplane, able to ferry the entire cargo load down in four trips, provided there is refuelling available.

The simple and effective design of the Hudson's Bay has made it popular across human space, and anytime one goes on sale there are buyers lined up to bid.

TL10		Tons	Cost (MLV)
Hull	500-ton Aligned Crystal Steel Spaceframe	—	10
Reaction Drive	OMS Thruster	15	6
Stutterwarp	1.18 ly/day, Tac Speed: 1 System Speed: 0.76 AU/day	3.16	3.95
Power Plant	MHD Turbine (Power 60)	7.5	1.88
Emergency Power	Power 5 (24 hours)	1.2	1.2
Fuel Tanks	OMS Thruster (6 Burns)	90	—
	Power Plant (2 weeks)	30	—
Radiators	Conventional, Capacity 60	6	0.3
Bridge	Standard	20	2.5
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.472
Sensors	Basic Nav Array, DSS, GADS	3.316	2.095
Weapons	Hardpoint	—	0.1
Systems	Exercise Equipment for 9, Safety Locker, Ship's Locker, Simple Fresher	9.75	2.41
	Cargo Arms x2	1	0.2
Sub-Craft	Bison Lander in Berth	66	6.6
Airlocks	Standard Airlocks x5	—	—
Accommodations	Small Staterooms x30	60	3
Life Support	28 Days	1.68	—
Consumables			
Cargo		184.89	—
Total: MLv37.61			

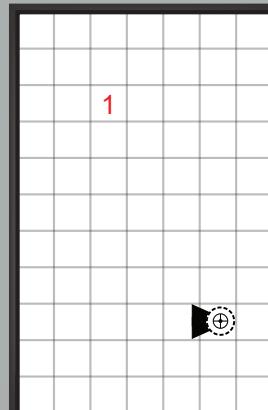
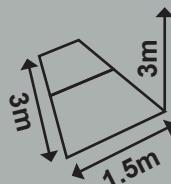
HUDSON'S BAY FREIGHTER

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit

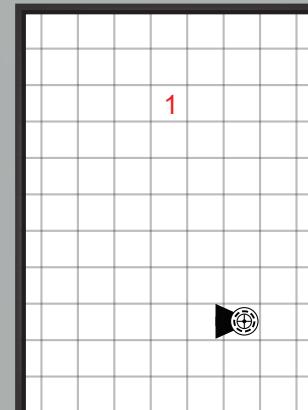


LEGEND

1. Cargo Hold
2. Airlock
3. Sensors
4. Bridge
5. Life support consumables
6. Reaction drive
7. Radiators
8. Small staterooms
9. Ship's locker
10. Simple fresher
11. Exercise room
12. Power plant
13. Stutterwarp



Decks 1



Decks 2

Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2, Small Craft Tech, Administrator, Cargo Handler Comfort Rating: -1	6	50	Base Reflected: 2 Base Radiated: 2

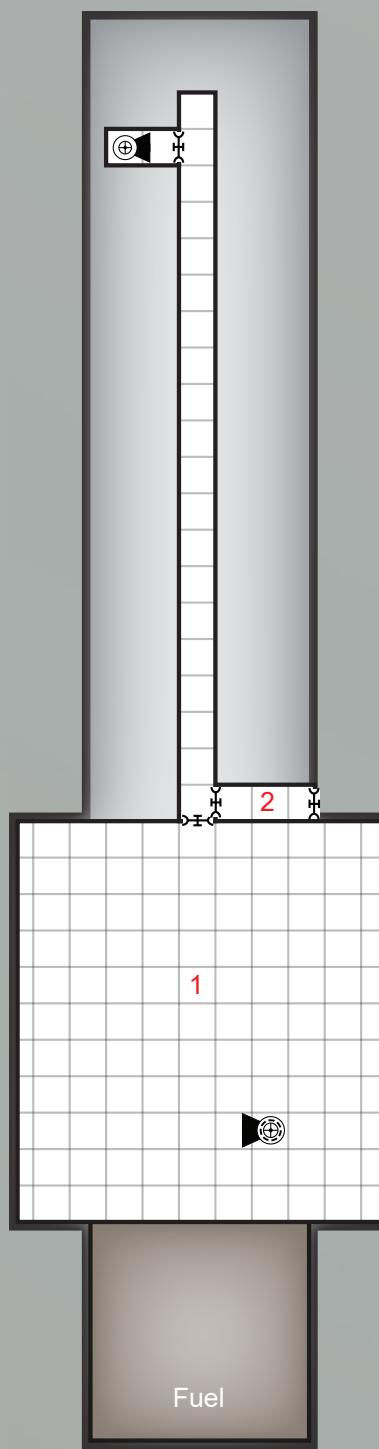
Running Costs

Maintenance Cost: Lv3134/month
Purchase Cost: MLv37.61

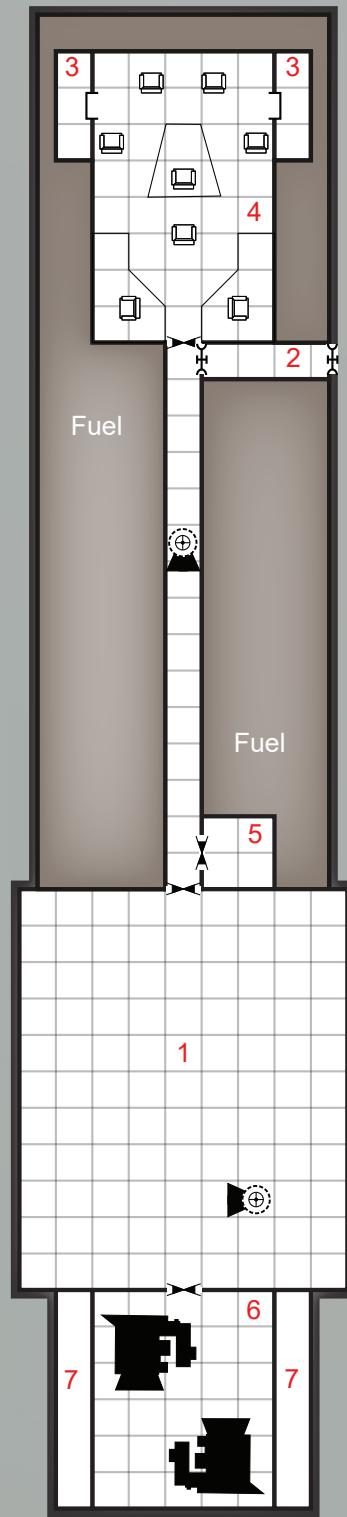
Power Requirements

Power

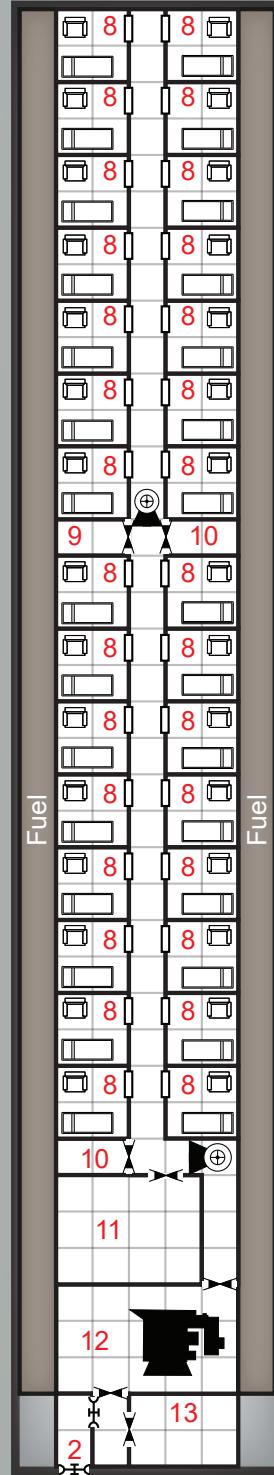
Basic Ship Systems	5
Reaction Drive	50
Stutterwarp	35
Sensors	7



Decks 3



Decks 4



Decks 5

ELEKTRA-917

NATION: France
FIRST EXAMPLE LAID DOWN: 2280
MANUFACTURER: L'Étage Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 105 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: France, Germany, United Kingdom
NUMBER IN SERVICE: 225
LENGTH: 33.05 m
WIDTH: 11.02 m
WINGSPAN: 13.22 m
TAKE-OFF MASS (FULLY FUELLED): 2,250 tons
POWER PLANT: Darlan Aerospace Hyena 5 MW MHD Turbine
REACTION DRIVE: L'Étage Step 8A Air-Breathing Thruster, 9,000 tons thrust
STUTTERWARP: L'Étage J30 3 MW Gen II Jerome-Effect Stutterwarp
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,800 km/h
TAKE-OFF ROLL: 2,400 m
LANDING ROLL, UNPOWERED: 4,050 m
LANDING ROLL, POWERED: 1,350 m
MAXIMUM AIRSPEED: Supersonic
CRUISING AIRSPEED: Transonic
ENDURANCE: 1 Hour per Burn

The Elektra-917 is a small liner that manages to solve many of the issues associated with such craft. It is interface-capable and can provide passengers with artificial gravity. It solves the lifeboat and safety question by using linked vessels, as there is redundant power and stutterwarp drive, and each vessel of a pair can act as a lifeboat for the other.

An Elektra is a small starship with a lifting body airframe, capable of an unpowered landing on most worlds of the French Arm, while carrying enough fuel to attain orbit.

Once in space, the Elektra deploys a pylon that allows it to connect to another Elektra, and they spin as a pair to induce simulated gravity in each vessel. Companies that operate Elekttras always deploy them in pairs for this reason. When linked in this way, however, only one stutterwarp can be run, so the speed on the linked ships is only 1.32 light-years per day.

Elekttras are popular on runs to worlds with more than one colony, as the combination can separate and go to different surface ports, reuniting again once back in orbit. The main drawback of these vessels is the small passenger load and expense of operating such a large interface vessel.

METAL CONTAINER SHIP

NATION: France
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: L'Étage Heavy Space Systems
PRODUCTION STATUS: Out of Production
CONSTRUCTION TIME: 546 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: France, Trilon, Independent
NUMBER IN SERVICE: 12
LENGTH: 85.55 m
WIDTH: 10.78 m
LAUNCH MASS LOADED: 51,000 tons
UNLOADED: 9,000 tons
POWER PLANT: L'Étage Heavy Space Systems J5400 54 MW MHD Turbine
REACTION DRIVE: Six L'Étage Heavy Space Systems Proteus-V 25 MW OMS Thruster, 8500 tons thrust each, 51,000 tons thrust total
STUTTERWARP: L'Étage Heavy Space Systems JC-150 15 MW Gen II Jerome-effect Stutterwarp

Considered the archetypal container ship, the Metal has been in service for well over 80 years. Though no longer produced, the robust spaceframe has meant that most of the hulls have survived to the present day. As a simple, straightforward design, the Metal does not have many modifications. The only exception is the *Libertine Pride of the Shaughnessy's* which adapted the tree for the first 12 containers to hold additional living space and a pair of hab modules.

With a capacity of 72 of the 2210-pattern containers, the Metal can haul an immense amount of cargo. It is still one of the larger cargo vessels in operation, on any arm. In addition to the standard 2210-pattern containers, the cargo tree can be modified to accept L-50 drop pods, although only three per segment instead of six containers. While this reduces cargo capacity, it simplifies the delivery of cargo to frontier worlds. This also has military potential, although no one would take a big, old, slow Metal into combat. It is more likely to be used for resupply once orbital space has been cleared of hostile forces.

Like many container ships, the OMS thruster is overpowered, allowing it to make appropriate orbital manoeuvres with a full load. Unloaded, the Metal is capable of greater acceleration than the spaceframe can handle and the system is throttled down to prevent damage. This does mean an unloaded Metal has superior orbital manoeuvring capability, with 10 Burns worth of fuel available. Such a ship is currently ferrying starships to and from the Tithonus Wall to Aurore, taking one or two vessels at a time.

TL11		Tons	Cost (MLv)
Hull	300-ton Synthetic Lifting Body	—	8.4
Hull Features	Heat Shield, Advanced	—	9
Reaction Drive	Thruster (air-breathing, advanced)	6	7.5
Stutterwarp	1.87 ly/day, Tac Speed: 2 System Speed: 1.21 AU/day	2.74	5.48
Power Plant	MHD Turbine (Power 50)	5	2
Emergency Power	Power 3 (24 hours)	0.36	0.36
Fuel Tanks	Thruster (6 Burns)	45	—
	Power Plant (2 weeks)	25	—
Radiators	Conventional, Capacity 50	5	0.25
Bridge	Small	10	1.5
Computer	Primary: Computer/15 Secondary: Computer/10	—	0.095
Sensors	Basic Nav Array, DSS, DSS	5	3.1
Weapons	Hardpoint	—	0.1
Systems	Automed, Library, Safety Locker, Ship's Locker, Simple Fresher, Exercise Equipment x7	12	2.655
Airlocks	Standard Airlocks x3	—	—
Accommodations	Staterooms x25, Small Staterooms x22	144	14.7
Artificial Gravity	Type: Two-Body (144.25 tons Under Spin)	16.5	0.165
	Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes		
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.748
Life Support	28 Days	2.576	—
Consumables			
Cargo		22.05	—
Total: MLv50.58			

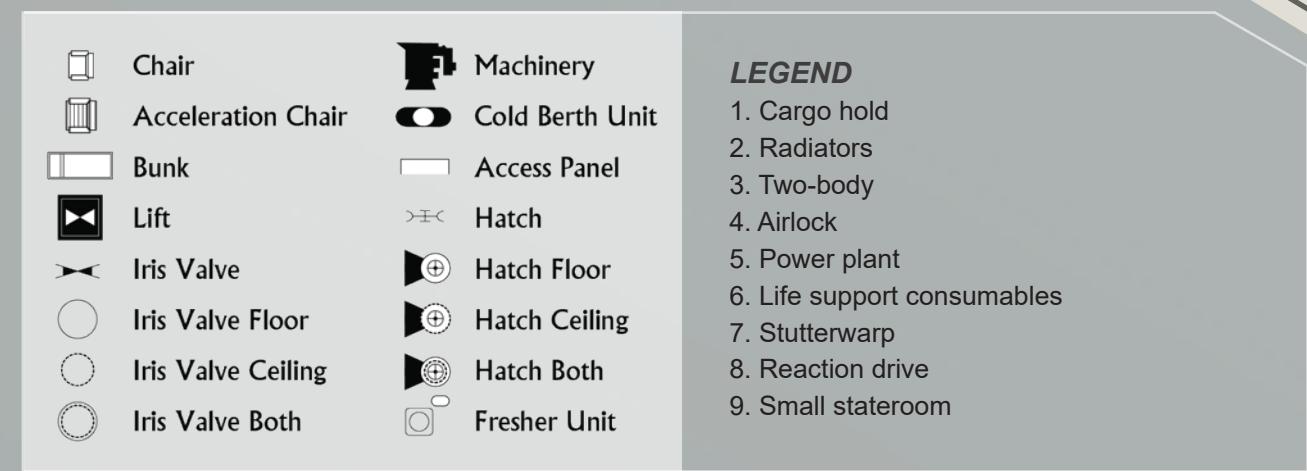
Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2, Administrator Comfort Rating: +1	24	33	Base Reflected: 1 Base Radiated: 2 (Signature 4 when joined up with another)

Running Costs

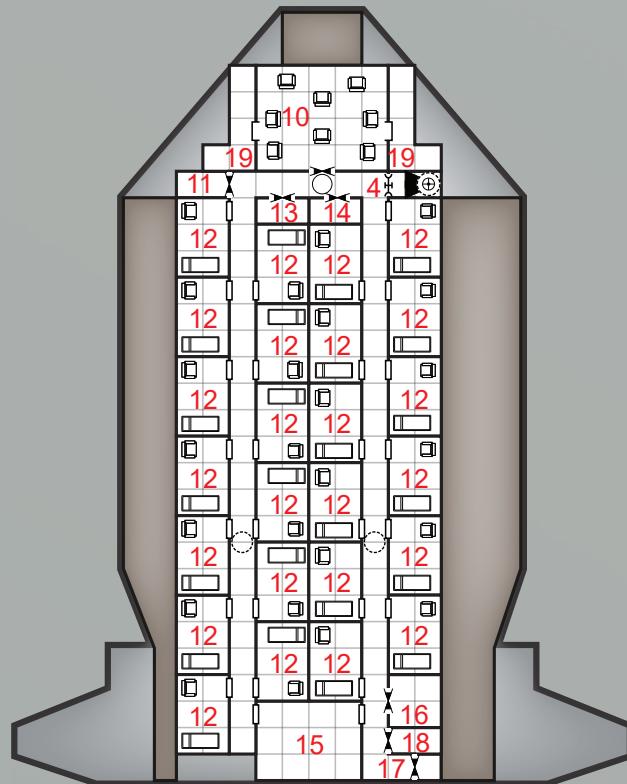
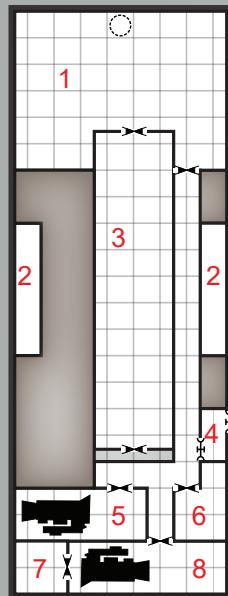
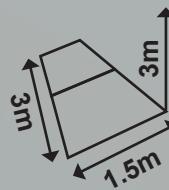
Maintenance Cost: Lv4215/month
Purchase Cost: MLv50.58

Power Requirements	Power
Basic Ship Systems	3
Reaction Drive	30
Stutterwarp	30
Sensors	7





- 10. Bridge
- 11. Safety locker
- 12. Stateroom
- 13. Library
- 14. Simple fresher
- 15. Exercise room
- 16. Automed
- 17. Emergency power
- 18. Ship's locker
- 19. Sensors



Decks 1

Decks 2

Decks 3

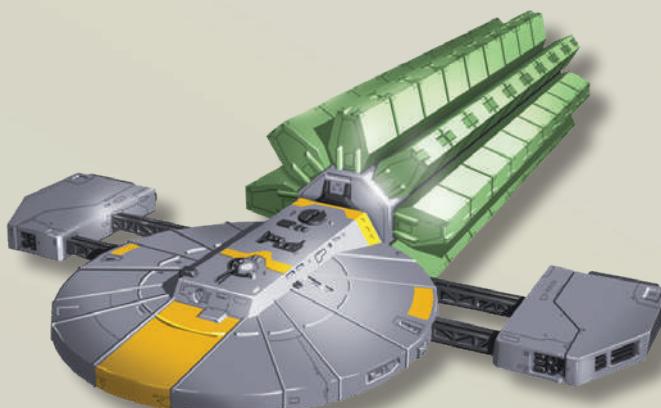
TL10		Tons	Cost (MLv)
Hull	1,500-ton Aligned Crystal Steel Spaceframe	—	30
Hull Features	Radiation Shield	—	7.5
Reaction Drive	OMS Thruster	153	61.2
Stutterwarp	Loaded: 0.77 ly/day, Tac Speed: 1, System Speed: 0.5 AU per day Unloaded: 1.41 ly/day, Tac Speed: 1, System Speed: 0.91 AU per day	6.55	8.18
Power Plant	MHD Turbine (Power 540)	67.5	16.88
Emergency Power	Power 15 (24 hours)	3.6	3.6
Fuel Tanks	OMS Thruster (4 Burns loaded) (10 Burns unloaded) Power Plant (3 Weeks)	459 — 405	— — —
Radiators	Conventional, Capacity 540	54	2.7
Bridge	Standard	40	7.5
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Nav Array	1	0.1
Weapons	Hardpoints x2	—	0.2
Systems	Exercise Equipment for 10, Safety Lockers x2, Ship's Locker, Simple Freshers x6, Common Areas (20 tons) Cargo Tree (3,600 tons)	32 180	4.73 180
Sub-Craft	WorkerBees x2 in Hangar	6	5.92
Airlocks	Standard Airlocks x15	—	—
Accommodations	Small Staterooms x33	66	3.3
Software	Archive, Intellect, Manoeuvre	—	1
Life Support Consumables	56 days for 33 people	3.7	—
Cargo		22.65	—
Total: MLv299.61			

Crew	Passengers	Hull Points	Signature: 4
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilot x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x4, Life Support Techs x2, Electronics Techs x2, Administrators x3, Cargo Handler, WorkerBee Crew x4 Comfort Rating: -2	24	180	Base Reflected: 4 Base Radiated: 3 (+1 to Signature for every 1,000 tons of container carried; full load is +4)

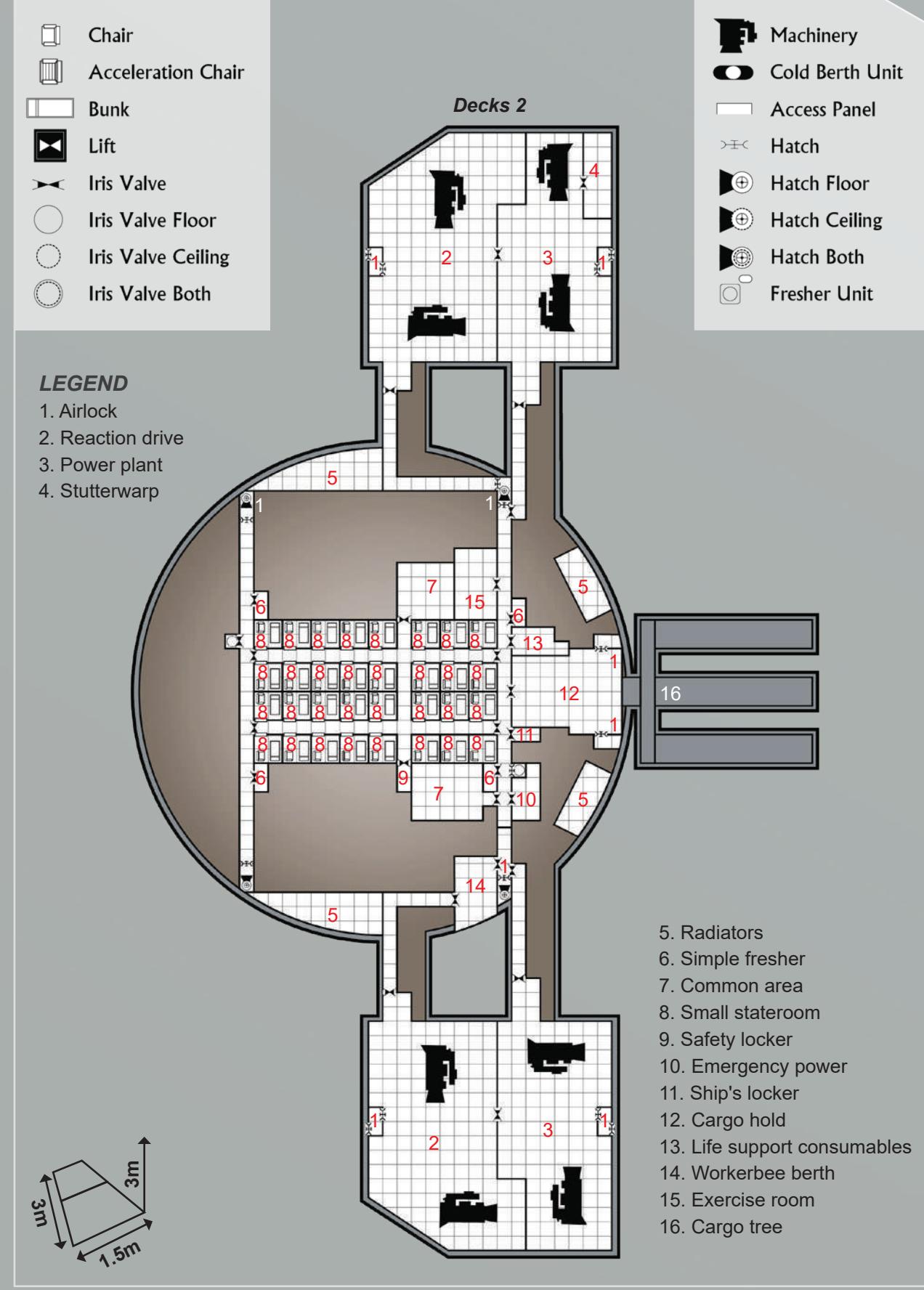
Running Costs

Maintenance Cost: Lv22744/month
Purchase Cost: MLv272.93

Power Requirements	Power
Basic Ship Systems	15
Reaction Drive	150
Sensors	150



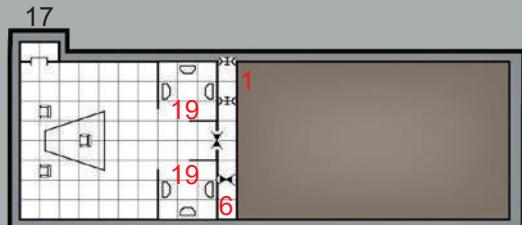
METAL CONTAINER SHIP



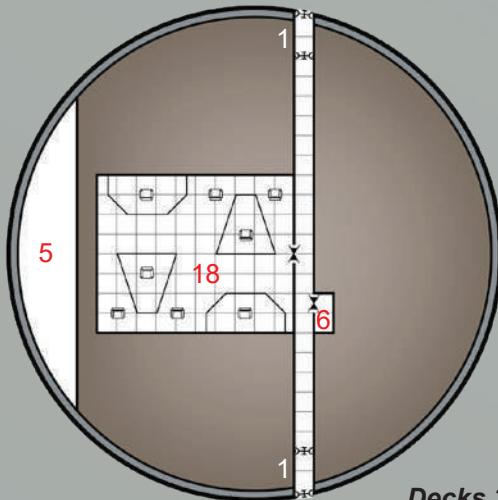
	Chair		Machinery
	Acceleration Chair		Cold Berth Unit
	Bunk		Access Panel
	Lift		Hatch
	Iris Valve		Hatch Floor
	Iris Valve Floor		Hatch Ceiling
	Iris Valve Ceiling		Hatch Both
	Iris Valve Both		Fresher Unit

LEGEND

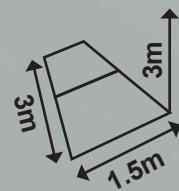
1. Airlock
2. Reaction drive
3. Power plant
4. Stutterwarp



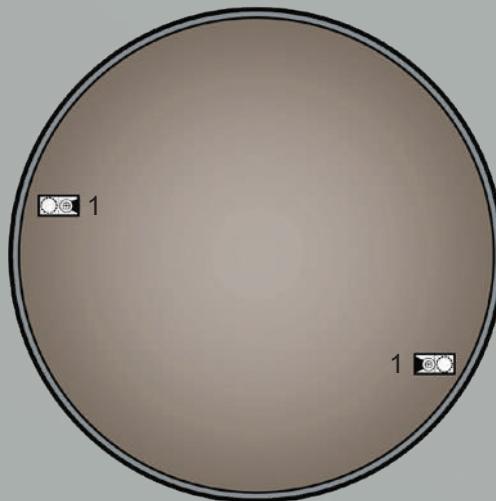
Decks 4



Decks 3



Decks 1



5. Radiators
6. Simple fresher
7. Common area
8. Small stateroom
9. Safety locker
10. Emergency power
11. Ship's locker
12. Cargo hold
13. Life support consumables
14. Workerbee berth
15. Exercise room
16. Cargo tree
17. Sensors
18. Bridge
19. Computer station

DESARGE 8680 LINER

NATION: France

FIRST EXAMPLE LAID DOWN: 2271

MANUFACTURER: General Service Transport

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 6 Years

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 3

LENGTH: 90 m

WIDTH: 46 m

DIAMETER: 122 m (habitation ring)

LAUNCH MASS (FULLY FUELLED): 37,500 tons

POWER PLANT: TerraFuse GK-100 120 MW Fusion Reactor

REACTION DRIVE: L'Étage Orion II Advanced Nuclear

OMS Thruster, 50,000 tons thrust

STUTTERWARP: Trilon System-300 30 MW Gen II

Jerome-Effect Stutterwarp

The Desarge 8680, dubbed the Tall Ships-class by the press and tourism industry, are the ultimate in luxury space travel. General Service Transport runs three of

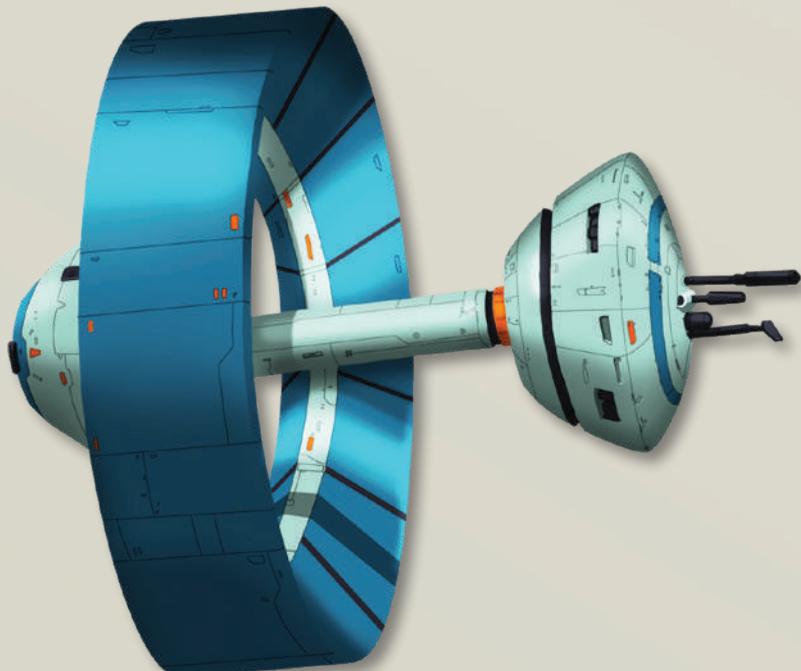
these massive ships on the lucrative Core runs, with the occasional foray onto the French and American Arms. These are some of the biggest civilian vessels in operation, able to take on hundreds of passengers in comfortable conditions.

While ships of the class carry two interface craft in internal hangars, they rely on local interface capability on the worlds they visit to handle passengers and cargo.

The two optical telescopes are normally for the use of the passengers. They have been occasionally chartered by universities and foundations, and data gathered used to create ultra-high-resolution synthetic aperture images.

The four luxury suites are in high demand, with extensive waiting lists. The fourth vessel of the class, currently under construction, will be built with only luxury staterooms.

Crew	Passengers	Hull Points	Signature: 7
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x10, Small Craft Techs x2, Life Support Techs x20, Electronics Techs x2, Small Craft Tech, Administrators x10, Small Craft/Fighter Pilots x4, Stewards x8, Medics x3 Comfort Rating: +3 (+4 for Luxury passengers)	400	550	Base Reflected: 7 Base Radiated: 3



Running Costs

Maintenance Cost: Lv90838/month
Purchase Cost: MLv1090.06

Power Requirements	Power
Basic Ship Systems	50
Reaction Drive	500
Stutterwarp	300
Sensors	17

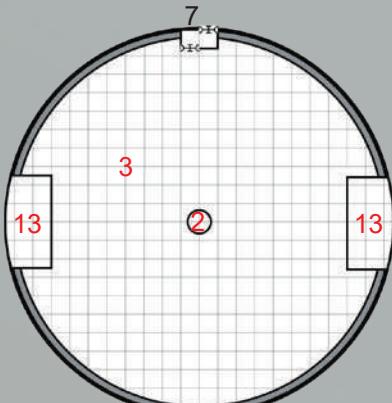
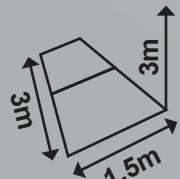
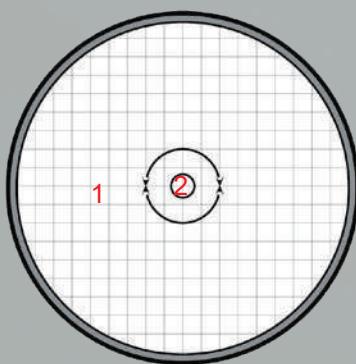
TL11		Tons	Cost (MLv)
Hull	5,000-ton Synthetic Spaceframe	—	120
Hull Features	Radiation Shield, Advanced	—	125
Reaction Drive	Orbital Nuclear Thruster	135	300
Stutterwarp	1.6 ly/day, Tac Speed: 2 System Speed: 1.03 AU/day	8.66	17.32
Power Plant	Fusion Reactor (Power 900)	75	75
Emergency Power	Power 500 (8 hours)	6	6
Fuel Tanks	Nuclear OMS Thruster (6 Burns)	270	—
Radiators	Conventional, Capacity 900	90	4.5
Bridge	Large, with Neural Link, Encrypted Comms, Laser Comm	120.5	43.5
Computer	Primary: Computer/25 Secondary: Computer/20	—	10
Sensors	Basic Nav Array, DSS, GADS, Telescope, Telescope	7.866	13.432
Weapons	Hardpoints x4	—	0.4
Systems	Safety Lockers x10, Ship's Lockers x2, Simple Freshers x50, Automeds x10, Medbays x4, Casino (150 tons), Entertainment Venue (150 tons), Exercise Equipment for 100, Full Galley for 100, Luxury Dining for 50, Theatre for 24 people	952	1.3.15
Drones and Remotes	Repair Remotes x10	1.1	2.11
Sub-Craft	SLV-55 Scout Landers x2 in Berth	121	24.32
Life Boats	Sauvetage-10 Lifeboats x65	650	97.5
Airlocks	Standard Airlocks x50, Cargo Airlock, Large Airlocks x4	48	0.32
Accommodations	Staterooms x410, Luxury Suites x4, Small Staterooms x50	1,772	214
Artificial Gravity	Type: Double Hull (3426.64 tons under spin) Radius: 60 m, 1 RPM, Gravity: 0.27 G, Spin Up/Down: 16.2 minutes	222.7316	44.55
Software	Archive, Intellect, Manoeuvre, Auto-Repair/2, Neural Interface, Stutterwarp Control	—	12.58
Life Support Consumable	56 Days for 470 people	52.64	—
Cargo		465.5	—
Total: MLv1090.06			

LEGEND

- 1. Reaction drive
- 2. Access tube
- 3. Cargo
- 4. Power plant
- 5. Stutterwarp
- 6. Simple fresher
- 7. Airlock
- 8. Small stateroom
- 9. Safety locker
- 10. Life support consumables
- 11. Cargo airlock
- 12. Cargo lift
- 13. Large cargo airlock
- 14. Medbay
- 15. Ship's locker
- 16. Luxury stateroom
- 17. Stateroom
- 18. Luxury dining
- 19. Galley
- 20. Entertainment venue
- 21. Exercise room
- 22. Storage space
- 23. Automed
- 24. Casino
- 25. Radiators
- 26. Theatre
- 27. Berths
- 28. Bridge
- 29. Sensors
- 30. Emergency power
- 31. Remotes

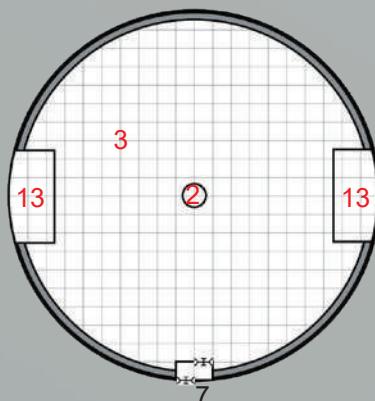
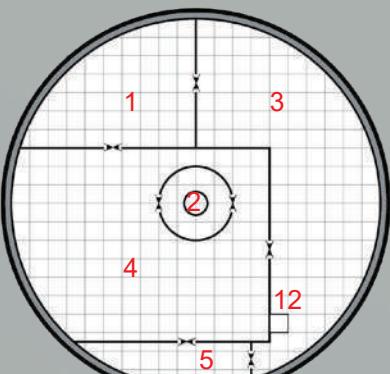
DESARGE 8680 LINER

Deck 1



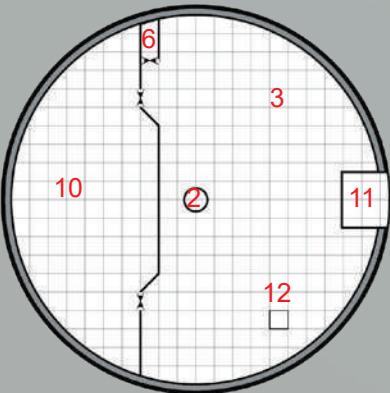
Deck 4

Deck 2



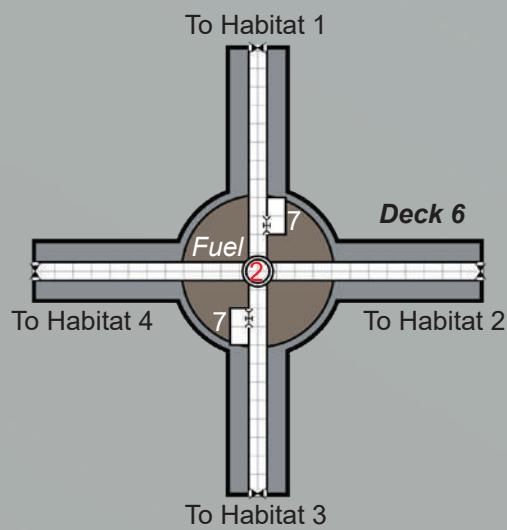
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Deck 3

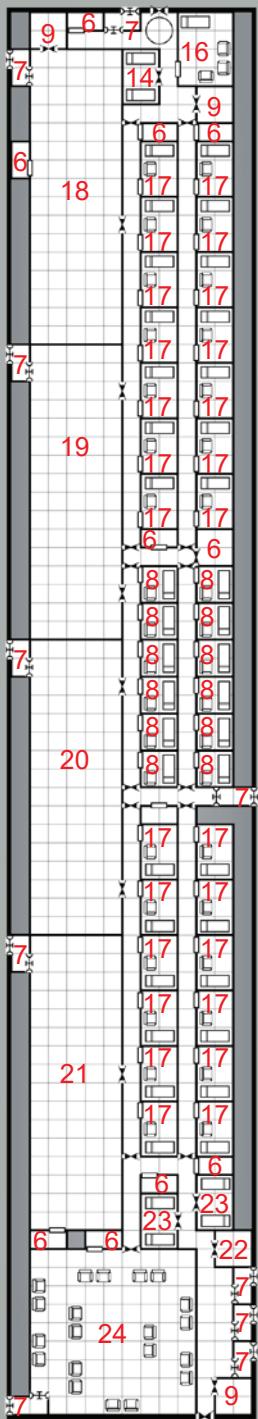


Deck 7 to 14
Fuel only

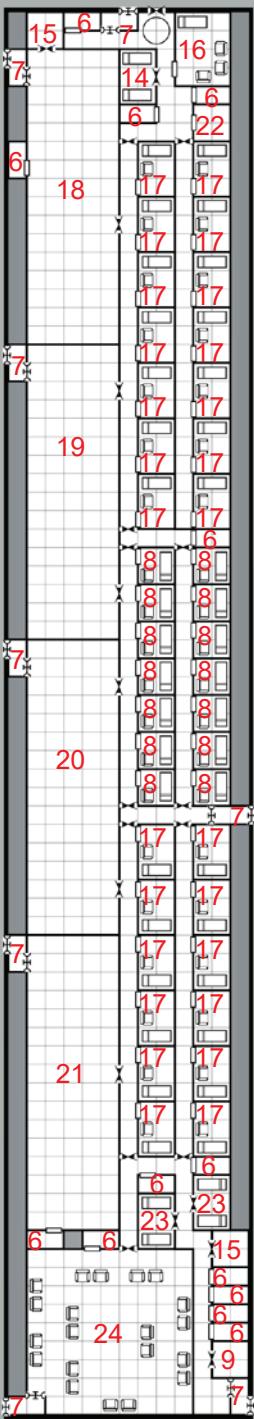
	Chair		Machinery
	Acceleration Chair		Cold Berth Unit
	Bunk		Access Panel
	Lift		Hatch
	Iris Valve		Hatch Floor
	Iris Valve Floor		Hatch Ceiling
	Iris Valve Ceiling		Hatch Both
	Iris Valve Both		Fresher Unit



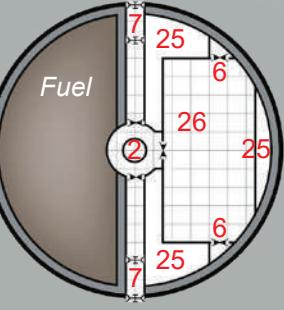
Spin Habitat 1, 2 and 3



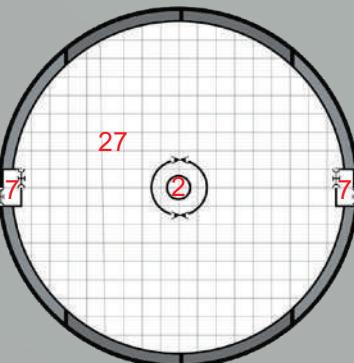
Spin Habitat 4



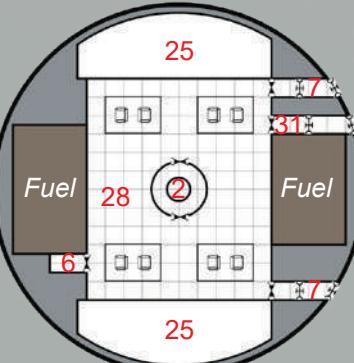
Deck 15



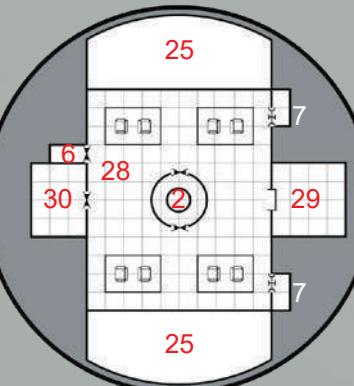
Deck 16



Deck 17



Deck 18



SCOUT VESSELS

Although national interstellar exploration slowed down for much of the 23rd Century, smaller nations and corporations still pushed the boundaries and filled in the empty places of the star charts. While few newly-built scout ships were brought into service in this time, many older models were repurposed for new roles.

BAADE

NATION: Germany

FIRST EXAMPLE LAID DOWN: 2279

MANUFACTURER: Baustoffe Aerospace

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 501 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: ARI

NUMBER IN SERVICE: 1

LENGTH: 61.11 m

WIDTH: 30.55 m

LAUNCH MASS (FULLY FUELLED): 6,144 tons

POWER PLANT: BRW AG Dyson-27 30 MW Fission Reactor

REACTION DRIVE: Rheinmetall R-5 Advanced Nuclear

OMS Thruster, 8,000 tons thrust

STUTTERWARP: AR-I Propulsion Labs BD-120 12 MW

Gen II Jerome-Effect Stutterwarp

Until the *Bayern*, the *Baade* was the most-celebrated long-range exploratory craft in human space. In 2285, it arrived at the nearby neutron star 1RXS J141256.0+792204, also known as Calvera. Despite a failure of her primary radiation screen, and several casualties, *Baade*'s mission was judged a success. At nearly 750 light-years for the round trip, this voyage was the furthest any human vessel had travelled up

until that point. It carried out a very detailed study of the object and the surrounding system, which was mostly debris.

Sadly, one pinnace, the *Argo*, was lost when an electromagnetic event on the neutron star's surface badly damaged the vessel. When the *Baade* tried to move closer to effect a rescue, the commander of the *Argo*, Lise Morales, de-orbited the ship into the star, preventing the *Baade* from further endangering itself and its crew. All four aboard the *Argo* were lost.

The success of the *Baade*'s mission to Calvera gave the designers of the *Bayern* valuable information on conducting a long-range expedition. In particular, the *Baade*'s reliance on carried stores made it less flexible in its approach and required a strict adherence to mission plans, even in the face of new discoveries.

Rumours

There is a persistent rumour in the halls of the ARI that the 'electromagnetic event' that crippled the *Argo* was a coherent gamma ray beam, a weapon fired from the surface of the neutron star when the *Argo* approached too closely. The ARI refuses to comment publicly on the matter but off the record ARI officials say the story is 'pure nonsense and does not merit an official response'.

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x10, Small Craft Techs x4, Life Support Techs x2, Electronics Techs x2, Small Craft Techs x4, Administrators x2, Small Craft Pilots x10, Medics x2, Specialists x10 (Scientists) Comfort Rating: -1	—	88	Base Reflected: 2 Base Radiated: 3

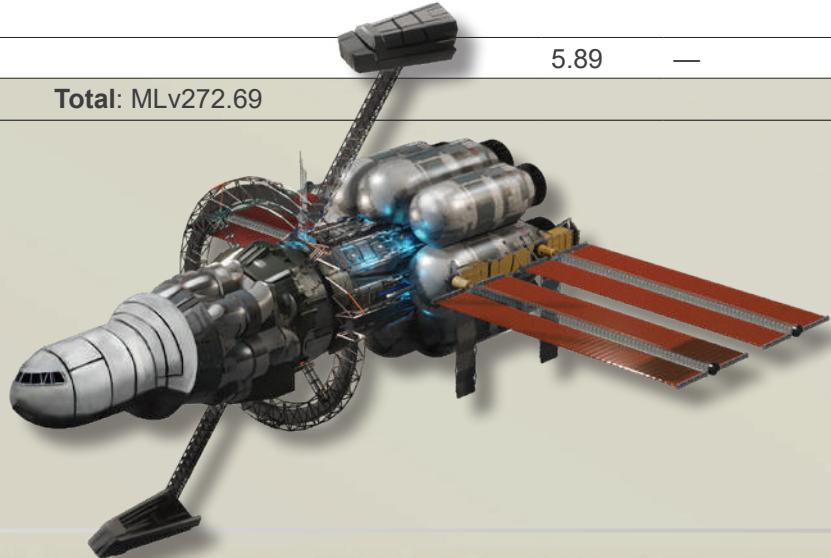
Running Costs

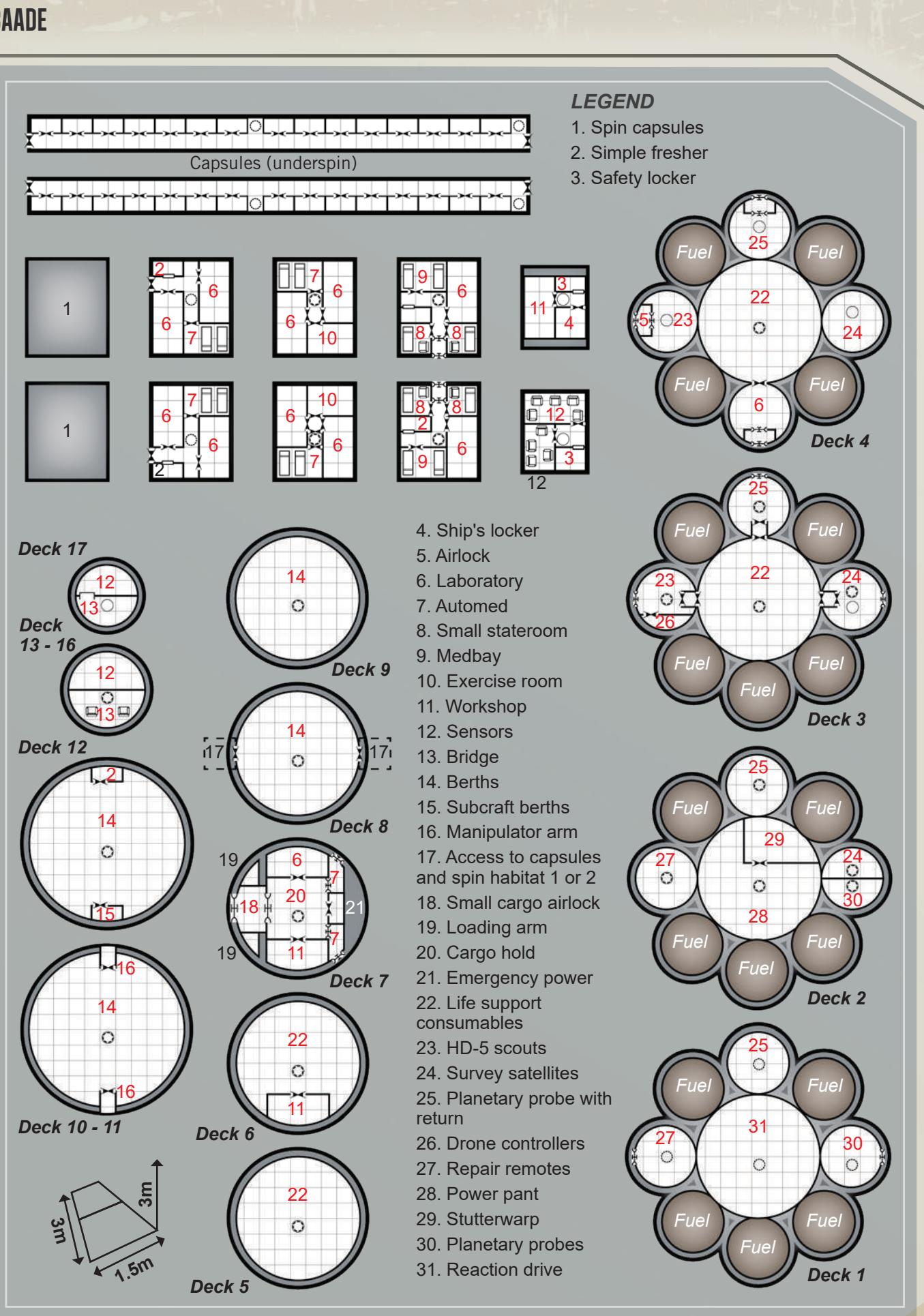
Maintenance Cost: Lv22724/month

Purchase Cost: MLv272.69

TL11		Tons	Cost (MLv)
Hull	800-ton Synthetic Spaceframe	—	23.2
Hull Features	Advanced, Radiation Shield	—	20
Armour	3	19.2	3.84
Reaction Drive	Nuclear OMS Thruster (advanced)	21.6	48
Stutterwarp	2.18 ly/day, Tac Speed: 2 System Speed: 1.41 AU/day	5.16	10.33
Power Plant	Fission Reactor (Power 300)	37.5	15
Emergency Power	Power 8 (24 hours)	0.96	0.96
Fuel Tanks	Nuclear OMS Thruster (10 Burns)	72	—
	Subcraft Fuel 4 refills	55.6	—
Fuel Purification	10 tons/day	1	2
Radiators	Conventional, Capacity 300	30	1.5
Bridge	Standard, Encrypted Comms, Laser Comm	20.5	10
Computer	Primary: Computer/25 fib Secondary: Computer/20 fib	—	11.25
Sensors	Basic Military, Basic Nav Array, Advanced Survey, Standard Survey, Telescopes x3, DSS, GADS	21.516	26.733
Weapons	Hardpoints x2	—	0.2
Drone Controllers	4	1	2
Systems	Under Spin: Automeds x4, Medbay, Briefing Rooms x2, Safety Lockers x2, Ship's Locker, Simple Freshers x4, Exercise Equipment for 10, Workshop, General Lab Spaces x10 Zero-G: General Lab Spaces x2, Simple Freshers x2, Workshops x2 Manipulators x4, Loading Arms x2	87	28.23
Drones and Remotes	HD-5 Scouts x4, Repair Remotes x10, Survey Satellites x20, Planetary Probes x2, Planetary Probe with Return	42.9	50.8
Sub-Craft	DC-30 Landers x2 in Berth, R40 Pinnacles x2 in Berth	132	17.32
Airlocks	Standard Airlocks x8, Small Cargo Airlock	4	0.04
Accommodations	Under Spin: Rack Capsules x30, Small Staterooms x4	38	7.9
Artificial Gravity	Type: Spin Capsules (212.5 tons under spin) Radius: 90 m, 2 RPM, Gravity: 0.4 G, Spin Up/Down: 24 minutes	31.88	15.94
Software	Archive, Auto-Repair/1, Intellect, Manoeuvre, Stutterwarp Control	—	8.068
Life Support Consumables	800 days for 65 people	104	—
Cargo		5.89	—
Total: MLv272.69			

Power Requirements	Power
Basic Ship Systems	8
Reaction Drive	80
Stutterwarp	120
Sensors	17
Fuel Refining	50
Drone Controllers	8





NAFASI SURVEY CRAFT

NATION: Azania

FIRST EXAMPLE LAID DOWN: 2280

MANUFACTURER: Delon Industrial Systems

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 178 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Azania, Private Sector

NUMBER IN SERVICE: 6

LENGTH: 22 m

WIDTH: 12 m

LAUNCH MASS (FULLY FUELLED): 5,500 tons

POWER PLANT: Angus Mills Power Systems G150 15 MW MHD Turbine

REACTION DRIVE: Royce 'Manticore 2' 5.5 MW OMS Thruster, 5,500 tons thrust

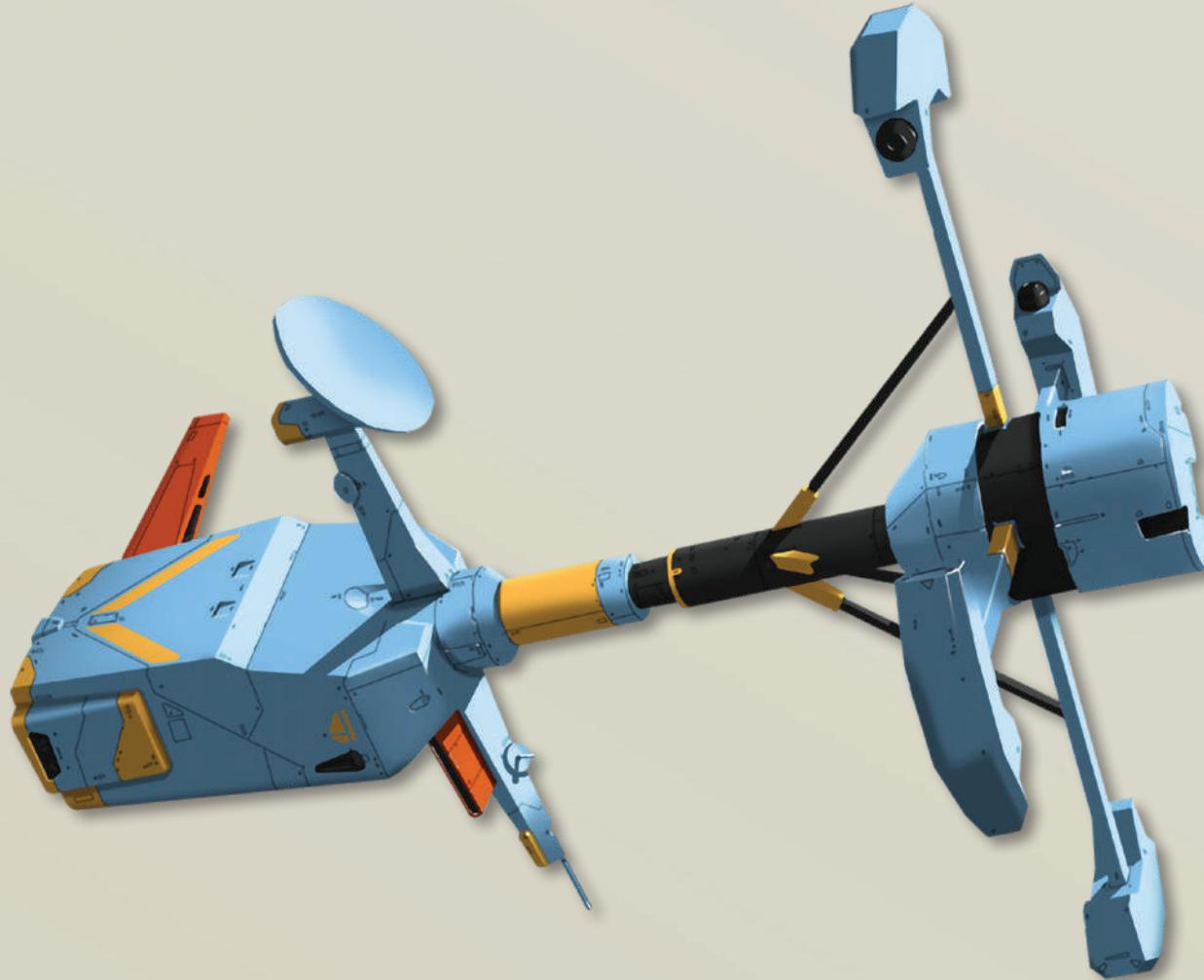
STUTTERWARP: British ExoSpace J60 6 MW Gen II

The Nafasi is a large vessel, although with only limited sensor ability. It is well-supplied with probes, however, and a pair of heavy landers with some resource

exploitation capability. A significant fraction of the Nafasi's cargo capacity is set aside for fuel for the landers, with the remainder assigned to sample returns.

In normal use, the Nafasi deploys its large solar array on extendable habitat arms and stays in orbit around target worlds for several weeks. During this time, probes and landers investigate areas of interest and gather samples. The Nafasi is a resource scout and the crew, although officially ESA, often do not follow ESA standards for exploratory missions, instead following a looser protocol aimed at finding exploitable resources.

The ESA consolidation efforts on the French Arm saw the use of these craft largely discontinued by Azania, with most of the remaining vessels sold off. One was retained as a training vessel and another sits in orbit around Kimanjano, its upgraded sensors watching the planet below as part of the long-term survey efforts. Word is the ESA intends to remove the drive core in the next two to five years and keep the ship as an orbital station.

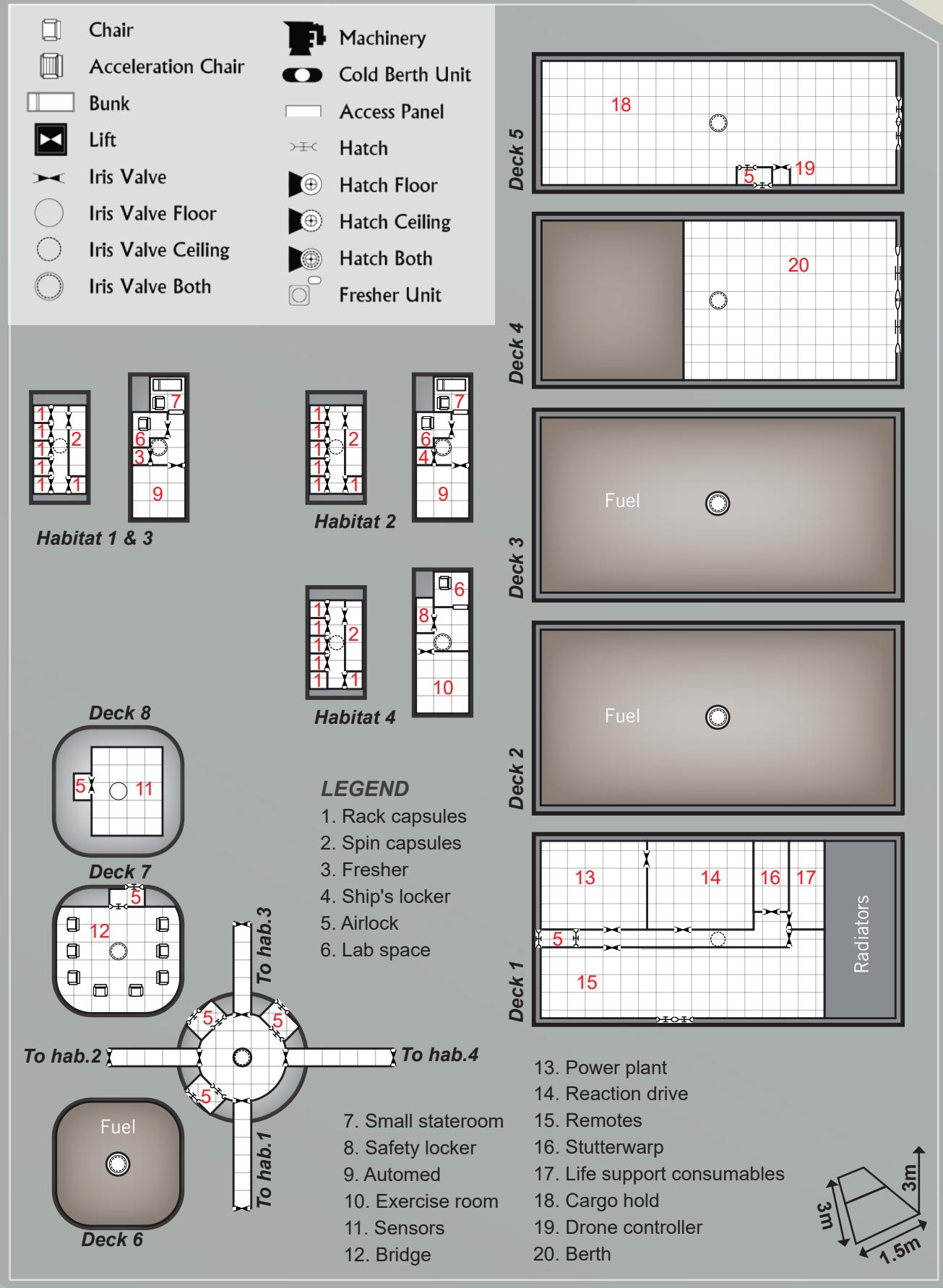


NAFASI SURVEY CRAFT

TL11		Tons	Cost (MLv)
Hull	550-ton Aligned Crystal Steel Spaceframe	—	11
Hull Features	Radiation Shield	—	2.75
Reaction Drive	OMS Thruster (advanced)	14.85	13.2
Stutterwarp	1.77 ly/day, Tac Speed: 2 System Speed: 1.14 AU/day	3.87	7.75
Power Plant	MHD Turbine (Power 150)	15	6
Emergency Power	Power 5.5 (24 hours)	0.66	0.66
Fuel Tanks	OMS Thruster (4 Burns)	59.4	—
	Power Plant (2 weeks)	75	—
	Subcraft Fuel 6 refills	99.9	—
Radiators	Conventional, Capacity 150	15	0.75
Bridge	Standard, Encrypted Comms	20	3.75
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Nav Array, DSS, GADS, Standard Survey, Telescope	10.39	8.48
Weapons	Hardpoints x2	—	0.2
Drone Controllers	2	0.5	1
Systems	Under Spin: Automeds x3, Safety Locker, Ship's Locker, Simple Freshers x2, Exercise Equipment for 8, General Lab Spaces x4	25.75	6.91
Drones and Remotes	Survey Satellites x8, Planetary Probes x4, Planetary Probe with Return	38.94	10.94
Sub-Craft	DC-30 Ballistic Landers x2 in Berth	66	10.7
Airlocks	Standard Airlocks x6	—	—
Accommodations	Under Spin: Rack Capsules x24, Small Staterooms x3	30	6.3
Artificial Gravity	Type: Spin Capsules (61.51 tons Under Spin) Radius: 60 m, 2 RPM, Gravity: 0.27 G, Spin Up/Down: 16.2 minutes	7.9963	4.0
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.71
Life Support Consumables	60 Days For 48 people	5.04	—
Cargo		58.18	—
Total: MLv88.84			

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Small Craft Techs x2, Life Support Techs x2, Electronics Techs x2, Administrator, Small Craft Pilots x4, Specialists x8 Comfort Rating: +0	400	550	Base Reflected: 3 Base Radiated: 2

Running Costs	Power Requirements	Power
Maintenance Cost: Lv7403/month	Basic Ship Systems	5.5
Purchase Cost: MLv88.84	Reaction Drive	55
	Stutterwarp	60
	Sensors	9



CAMBACERES

NATION: France
FIRST EXAMPLE LAID DOWN: 2289
MANUFACTURER: L'Étage Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 143 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: France, Private Sector
NUMBER IN SERVICE: 90
LENGTH: 31.1 m
WIDTH: 10.37 m
WINGSPAN: 12.44 m
TAKE-OFF MASS (FULLY FUELLED): 1,875 tons
POWER PLANT: L'Étage RG50 5 MW MHD Turbine
REACTION DRIVE: L'Étage Magnus II 25 MW Air-Breathing Thruster, 7,500 tons thrust
STUTTERWARP: L'Étage J-20 2 MW Gen II Jerome-Effect Stutterwarp
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 6,000 km/h
TAKE-OFF ROLL: 2,000 m
LANDING ROLL, UNPOWERED: 3,375 m
LANDING ROLL, POWERED: 1,125 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 hour per Burn

The Cambaceres is a rare example of an interface craft with spin gravity. The two habitats can retract into the hull for interface travel and dirtside operations. The habs are designed to fold up in such a way that they are usable on the ground as well.

These multipurpose craft can do everything from orbital surveys to in-depth ground exploration. This flexibility comes at a cost, with the Cambaceres being expensive to both purchase and operate. A small collection of vehicles and drones extend the dirtside exploration radius of the ship. While the ship is equipped with VTOL and rough field capability to permit extended atmospheric operations it is, at best, a clumsy flyer.

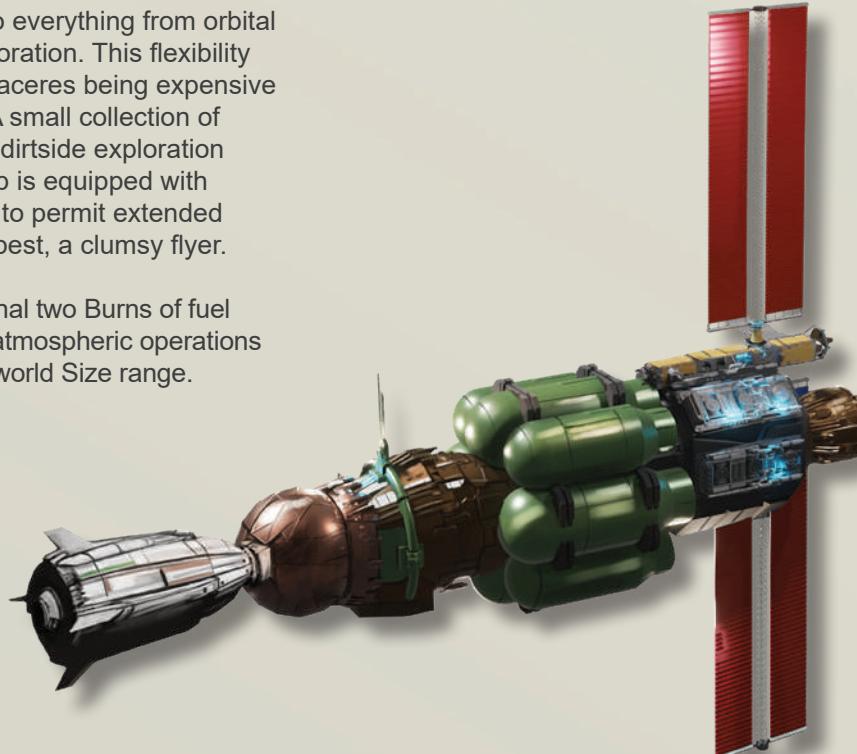
The Cambaceres has an additional two Burns of fuel for orbital operations, extended atmospheric operations and to increases its operational world Size range.

FAR HORIZON

NATION: Manchuria
FIRST EXAMPLE LAID DOWN: 2258
MANUFACTURER: Manchurian Aerospace Science and Industry Corporation (MASIC)
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 106 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Manchuria, Canada, Brazil
NUMBER IN SERVICE: 88
LENGTH: 41.47 m
WIDTH: 20.73 m
LAUNCH MASS (FULLY FUELLED): 1,875 tons
POWER PLANT: 6 MW MHD Turbine
REACTION DRIVE: OMS Thruster, 2,500 tons thrust
STUTTERWARP: Gen II Jerome-Effect Stutterwarp

The Far Horizon has been the standard scout vessel for Manchuria and several allied nations for the past 40 years. Although consolidation on the French Arm has limited exploration in that direction, on the Manchurian Arm many Tier 3 nations have used this time to expand, with Manchurian assistance. Most nations on the Manchurian Arm are allies of the Manchurians, if only out of a sense of obligation.

The Far Horizon is a small vessel without artificial gravity. Facilities and labs are limited but effective. A single ballistic lander is carried along but it is not equipped for extensive planetside exploration. Most survey missions involve placing survey and communication satellites for follow-on missions.



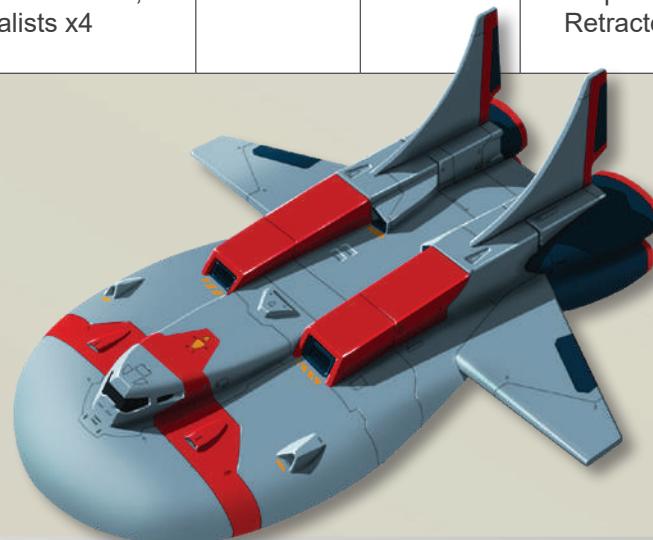
TL11		Tons	Cost (MLv)
Hull	250-ton Synthetic Lifting Body	—	7
Hull Features	Advanced, Heat Shield, Radiation Shield, Frontier Operations, VTOL	2.5	11.5
Reaction Drive	Thruster (Advanced, Air-Breathing)	5	6.25
Stutterwarp	1.84 ly/day, Tac Speed: 2 System Speed: 1.19 AU/day	2.24	4.47
Power Plant	MHD Turbine (Power 50)	5	2
Emergency Power	Power 2.5 (24 hours)	0.3	0.3
Fuel Tanks	Thruster (6 Burns)	37.5	—
	Power Plant (2 weeks)	25	—
Radiators	Conventional, Capacity 50	5	0.25
Bridge	Small	10	1.25
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Nav Array, DSS, GADS, Standard Survey, Telescope	10.22	8.15
Weapons	Hardpoints x2	—	0.2
Systems	Automeds x2, Safety Locker, Ship's Locker, Simple Freshers x2, General Lab Spaces x2, Exercise Equipment for 6	15.5	4.16
Drones and Remotes	Survey Satellites x10, Planetary Probes x4	22.55	10.355
Sub-Craft	Explorer-X Tracked ATV in Berth, Personal-ATVs x2 in Berth	26.4	3.16
Airlocks	Standard Airlocks x3	—	—
Accommodations	Small Staterooms x30	60	3
Artificial Gravity	Type: Extendable Spin Capsules (78.98 tons Under Spin) Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes	13.03	13.03
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.668
Life Support Consumables	60 days for 29 people	3.48	—
Cargo		5.77	—
Total: MLv69.15			

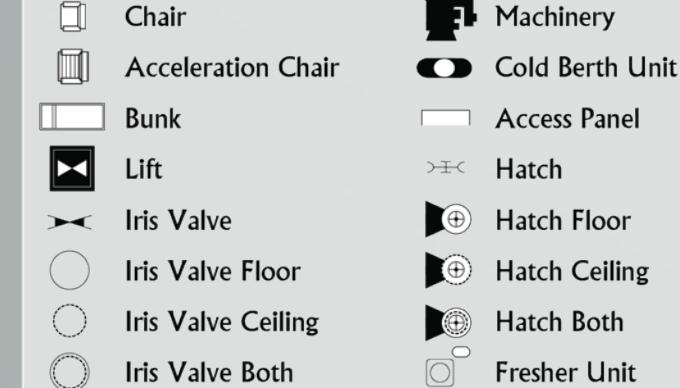
Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2, Administrator, Specialists x4 Comfort Rating: +0	—	27	Base Reflected: 3 Base Radiated: 2 Spin Hab Retracted: -1

Running Costs

Maintenance Cost: Lv5763/month
Purchase Cost: MLv69.15

Power Requirements	Power
Basic Ship Systems	5.5
Reaction Drive	55
Stutterwarp	60
Sensors	9

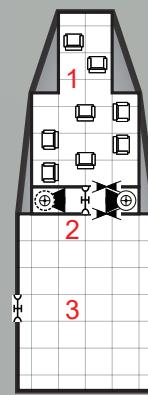
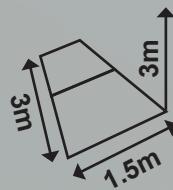




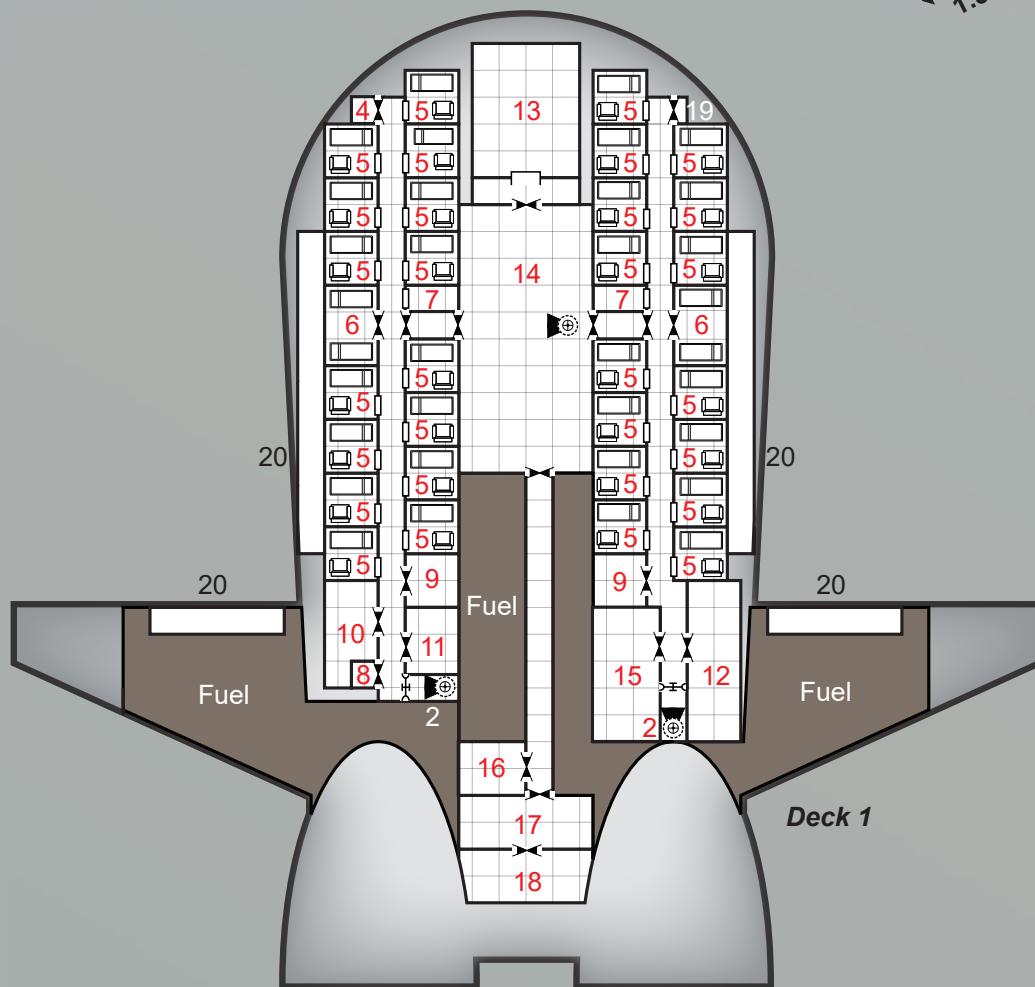
LEGEND

1. Bridge
2. Airlock
3. Survey satellites
4. Safety locker
5. Small stateroom
6. Automated
7. Simple fresher
8. Ship's locker
9. Laboratory

10. Life support consumables
11. Exercise room
12. Cargo hold
13. Sensors
14. Berths
15. Planetary probes
16. Stutterwarp
17. Power plant
18. Reaction drive
19. Emergency power



Deck 2



TL11		Tons	Cost (MLv)
Hull	250-ton Synthetic Spaceframe	—	6
Hull Features	Radiation Shield	—	1.25
Reaction Drive	OMS Thruster	7.5	3
Stutterwarp	1.19 ly/day, Tac Speed: 1	1.58	3.16
Power Plant	MHD Turbine (Power 60)	6	2.4
Fuel Tanks	OMS Thruster (5 Burns)	37.5	—
	Power Plant (2 weeks)	30	—
	Subcraft Fuel 1 refill	16.65	—
Radiators	Conventional, Capacity 60	6	0.3
Bridge	Small, Encrypted Comms	10	2.25
Computer	Primary: Computer/15 Secondary: Computer/10	—	2.16
Sensors	Basic Nav Array, Standard Survey, DSS, GADS, Telescope	10.16	8.02
Weapons	Type 17 PDC	2	1.85
Targeting	Light TTA (+0)	2	0.25
Systems	Automed, Safety Locker, Ship's Locker, Simple Freshers x2, General Lab Spaces x2	9.25	2.41
Drones and Remotes	Survey Satellites x12, Communications Satellites x12, Navigation Satellites x6	2.31	13.731
Sub-Craft	DC-30 Ballistic Lander in Berth	33	7.4
Airlocks	Standard Airlocks x3	—	0
Accommodations	Small Staterooms x30	60	3
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	1.452
Life Support	60 days for 30 people	3.6	—
Consumables			
Cargo		14.2	—
Total: MLv51.33			

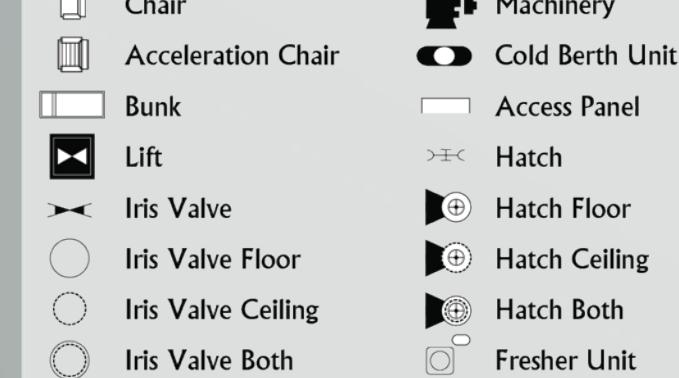
Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Small Craft Tech, Life Support Techs x2, Electronics Techs x2, Small Craft Pilots x2, Survey Specialists x4 Comfort Rating: -1	—	25	Base Reflected: 2 Base Radiated: 2

Running Costs

Maintenance Cost: Lv4261/month
Purchase Cost: MLv51.13

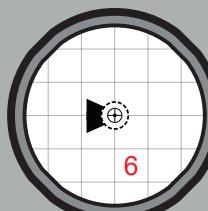
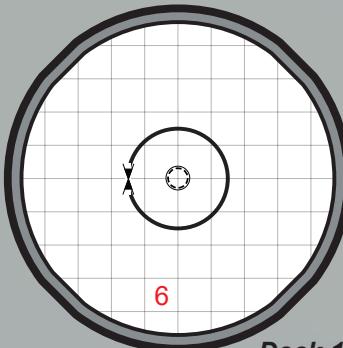
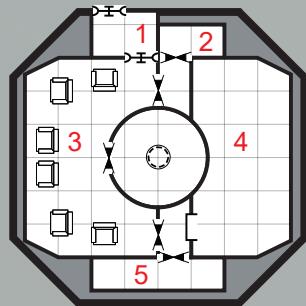
Power Requirements

Basic Ship Systems	2.5
Reaction Drive	25
Stutterwarp	10
Sensors	9
Weapons	20

**LEGEND**

- Airlock
- Safety locker
- Bridge
- Sensors
- Light TTA
- Berth
- Cargo hold
- Ship's locker
- Type 17 PDC
- Remotes
- Life support consumables
- Reaction drive
- Radiators
- Small staterooms
- Simple fresher
- Lab space
- Power plant
- Stutterwarp
- Automed

3m
1.5m

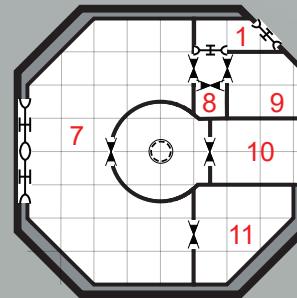
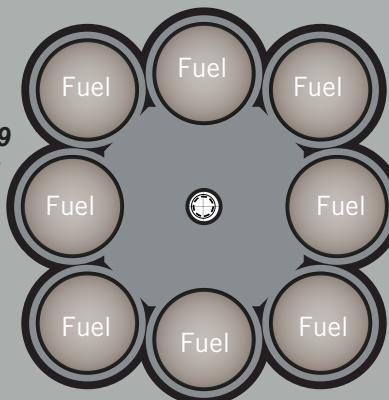
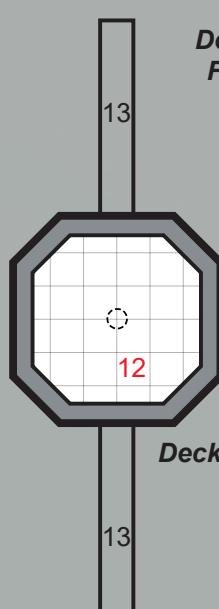


Deck 11

Deck 12

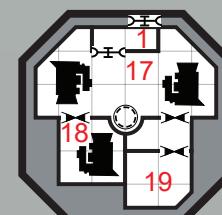
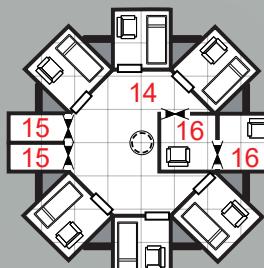
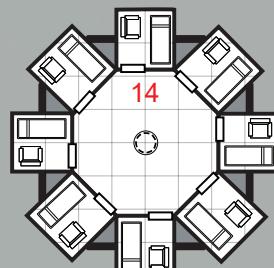
Deck 13

Deck 7 to 9
Fuel only



Deck 10

Deck 2 to 4



Deck 6

COURIERS

Interstellar trade and diplomacy are held together with a network of couriers and small packet ships. While interstellar travel is fast, couriers often push that capability, the information these ships carry being more valuable than mere cargo. It is possible to run a network of couriers, each one transmitting data to a waiting courier in a new system to get information from the Core to the ends of the Arms in a matter of days.

Couriers are also used for small, valuable cargos and executives, diplomats or small crew transfers.

FAIDI

NATION: Azania

FIRST EXAMPLE LAID DOWN: 2268

MANUFACTURER: Delon Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 77 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 90

LENGTH: 31.1 m

WIDTH: 10.37 m

WINGSPAN: 12.44 m

TAKE-OFF MASS (FULLY FUELLED): 2,272.5 tons

POWER PLANT: Angus Mills Power Systems G65 6.5 MW MHD Turbine

REACTION DRIVE: Delon KD-25 2.5 MW Air-Breathing Thruster, 7,500 tons thrust

STUTTERWARP: British ExoSpace Albus 6 MW Gen II Jerome-Effect Stutterwarp

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 800 km/h

TAKE-OFF ROLL: 1,000 m

LANDING ROLL, UNPOWERED: 1,688 m

LANDING ROLL, POWERED: 563 m

MAXIMUM AIRSPEED: Subsonic

CRUISING AIRSPEED: Very Fast

ENDURANCE: 1 Hour per Burn

The Faidi is a large courier vessel, suitable for commercial transport of high-value goods. While the first six production models went to Britain, it has since

been sold to corporate and foundation interests all over human space. Brazil has even modified a pair as combat vessels for the purposes of escorting civilian ships. This armed variant has an EA-122 laser array in a concealed retractable mount and the cargo bay is equipped with a pair of missiles along with a Grapeshot submunition dispenser. This design is intended for use against raiders and pirates and not intended to face dedicated combatants.

There is no spin habitat on the Faidi and accommodations are cramped. The ship is streamlined and has thrusters for atmospheric landings and orbital operations, and there is also some cargo space set aside for rapid delivery of high-value items and materials.

FAR RUNNER FAST COURIER

NATION: Manchuria

FIRST EXAMPLE LAID DOWN: 2292

MANUFACTURER: Manchurian Aerospace Science and Industry Corporation (MASIC)

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 85 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Manchuria

NUMBER IN SERVICE: 18

LENGTH: 26.23 m

WIDTH: 8.74 m

WINGSPAN: 10.49 m

TAKE-OFF MASS (FULLY FUELLED): 1,377 tons

POWER PLANT: Star City TC-60 6 MW MHD Turbine

REACTION DRIVE: MASIC AV-15 1.5 MW Plasma-Augmented Scramjet, 4,500 tons thrust

STUTTERWARP: MASIC K-400 4 MW Gen II Jerome-Effect Stutterwarp

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 6,000 km/h

TAKE-OFF ROLL: 1,200 m

LANDING ROLL, UNPOWERED: 2,025 m

LANDING ROLL, POWERED: 675 m

MAXIMUM AIRSPEED: Hypersonic

CRUISING AIRSPEED: Supersonic

ENDURANCE: 1 Hour per Burn

TL11		Tons	Cost (MLv)
Hull	250-ton Composite Lifting Body	—	8.5
Hull Features	Heat Shield, STOL	2.5	3.75
Armour	2	2.5	1.5
Reaction Drive	Thruster (air-breathing)	9.625	6.5625
Stutterwarp	2.63 ly/day, Tac Speed: 3	3.87	7.75
Power Plant	MHD Turbine (Power 65)	6.5	2.6
Fuel Tanks	Thruster (7 Burns)	43.75	—
	Power Plant (2 weeks)	32.5	—
Radiators	Conventional Capacity 65	6.5	0.325
Bridge	Small, Encrypted Comms	10	2.25
Computer	Primary: Computer/15 Secondary: Computer/10	—	2.16
Sensors	Basic Nav Array	1	0.1
Weapons	Hardpoint	—	0.1
Systems	Library, Safety Locker, Ship's Lockers x2, Exercise Equipment for 5	10	2
Airlocks	Standard Airlocks x3	—	—
Accommodations	Small Staterooms x25	50	2.5
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	2.052
Life Support	30 days for 23 people	1.38	—
Consumables			
Cargo		69.88	—
Total: MLv36.96			

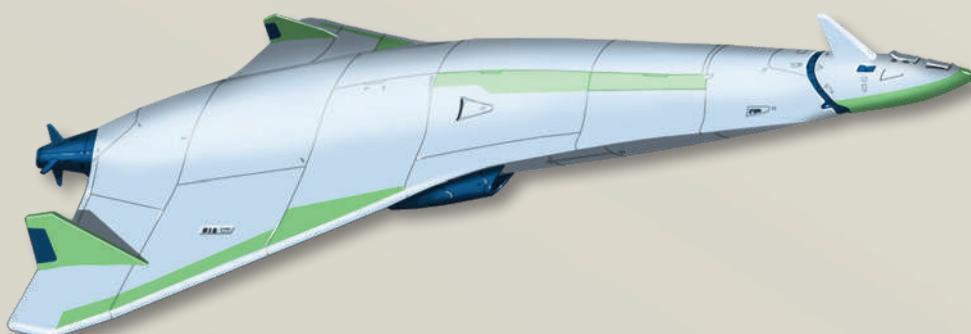
Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2 Comfort Rating: -1	—	30	Base Reflected: 1 Base Radiated: 2

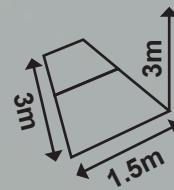
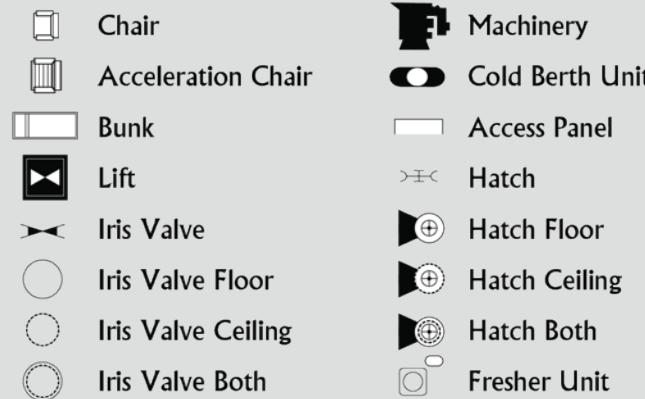
Running Costs

Maintenance Cost: Lv3080/month
Purchase Cost: MLv36.96

Power Requirements

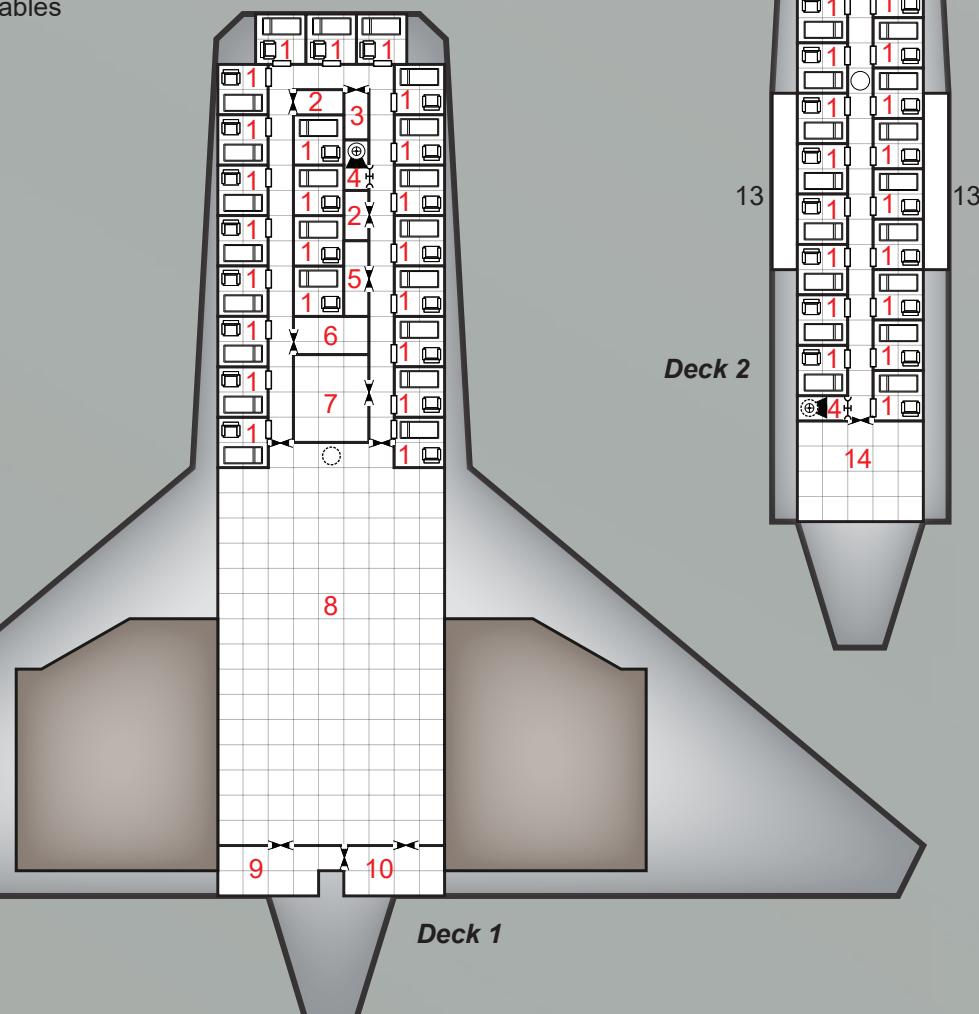
Power
Basic Ship Systems
Reaction Drive
Stutterwarp
Sensors





LEGEND

1. Small stateroom
2. Ship's locker
3. Safety locker
4. Airlock
5. Life support consumables
6. Library
7. Exercise room
8. Cargo hold
9. Power plant
10. Stutterwarp
11. Sensors
12. Bridge
13. Radiators
14. Reaction drive



FAR RUNNER FAST COURIER

The Far Runner is used by Manchurian corporate and government interests as a secure courier. With a speed of over three light years a day, it can reach the limits of its range in just over two days, the encrypted laser comm transmitting data or messages as soon as it drops out of FTL. The heavily protected secure

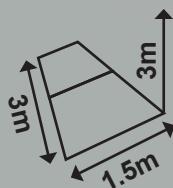
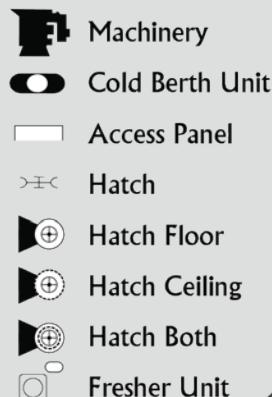
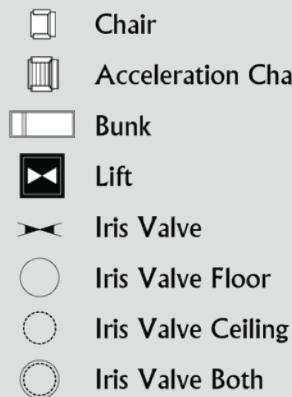
vault cannot be accessed by the crew, only by authorised parties at either end. The crews often do not even know what they are transporting.

Without the vault, the Far Runner is popular with freelancers on the Manchurian Arm for its speed and protection.

TL11		Tons	Cost (MLv)
Hull	150-ton Composite Lifting Body	—	5.1
Hull Features	Advanced, Heat Shield, VTOL	1.5	5.25
Armour	4	3	1.8
Reaction Drive	Thruster (air-breathing, advanced)	3.75	4.6875
Stutterwarp	3.06 ly/day, Tac Speed: 3 System Speed: 1.95 AU/day	3.16	6.32
Power Plant	MHD Turbine (Power 60)	6	2.4
Fuel Tanks	Thruster (6 Burns)	22.5	—
	Power Plant (2 weeks)	30	—
Radiators	Conventional Capacity 60	6	0.3
Bridge	Small, with Neural Link, Encrypted Comms, Laser Comm	7	5.125
Computer	Primary: Computer/15 fib Secondary: Computer/10 fib	—	1.62
Sensors	Basic Military	2	4
Weapons	Hardpoint	—	0.1
Systems	Library, Safety Locker, Ship's Locker, Exercise Equipment for 4, Simple Freshers x2, Vault	21	7.66
Airlocks	Standard Airlocks x2	—	—
Accommodations	Small Staterooms x21	42	2.1
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	2.164
Life Support	30 days for 21 people	1.26	—
Consumables			
Cargo		0.33	—
Total: MLv45.56			

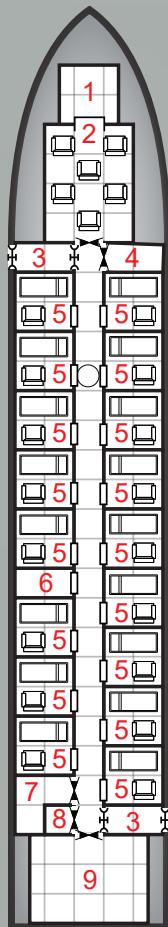
Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Tech x2 Comfort Rating: -1	—	19	Base Reflected: 1 Base Radiated: 2

Running Costs	Power Requirements	Power
Maintenance Cost: Lv3797/month Purchase Cost: MLv45.56	Basic Ship Systems	1.5
	Reaction Drive	15
	Laser Comm	10
	Stutterwarp	40
	Sensors	5

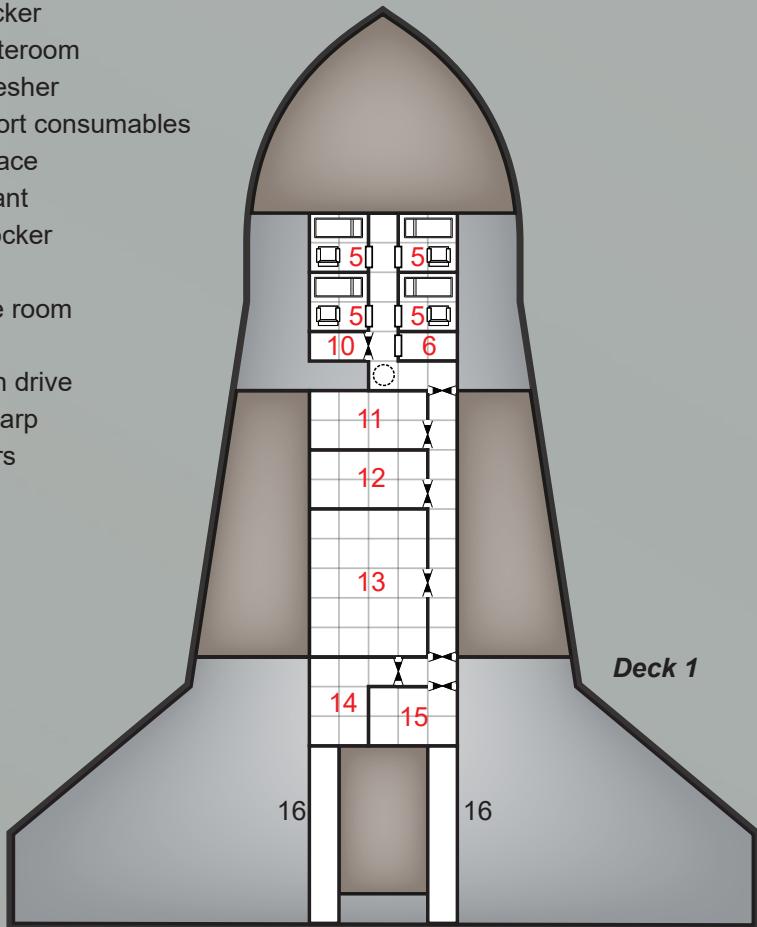


LEGEND

1. Sensors
2. Bridge
3. Airlock
4. Safety locker
5. Small stateroom
6. Simple fresher
7. Life support consumables
8. Cargo space
9. Power plant
10. Ship's locker
11. Library
12. Exercise room
13. Vault
14. Reaction drive
15. Stutterwarp
16. Radiators



Deck 2



Deck 1

MERKUR COURIER

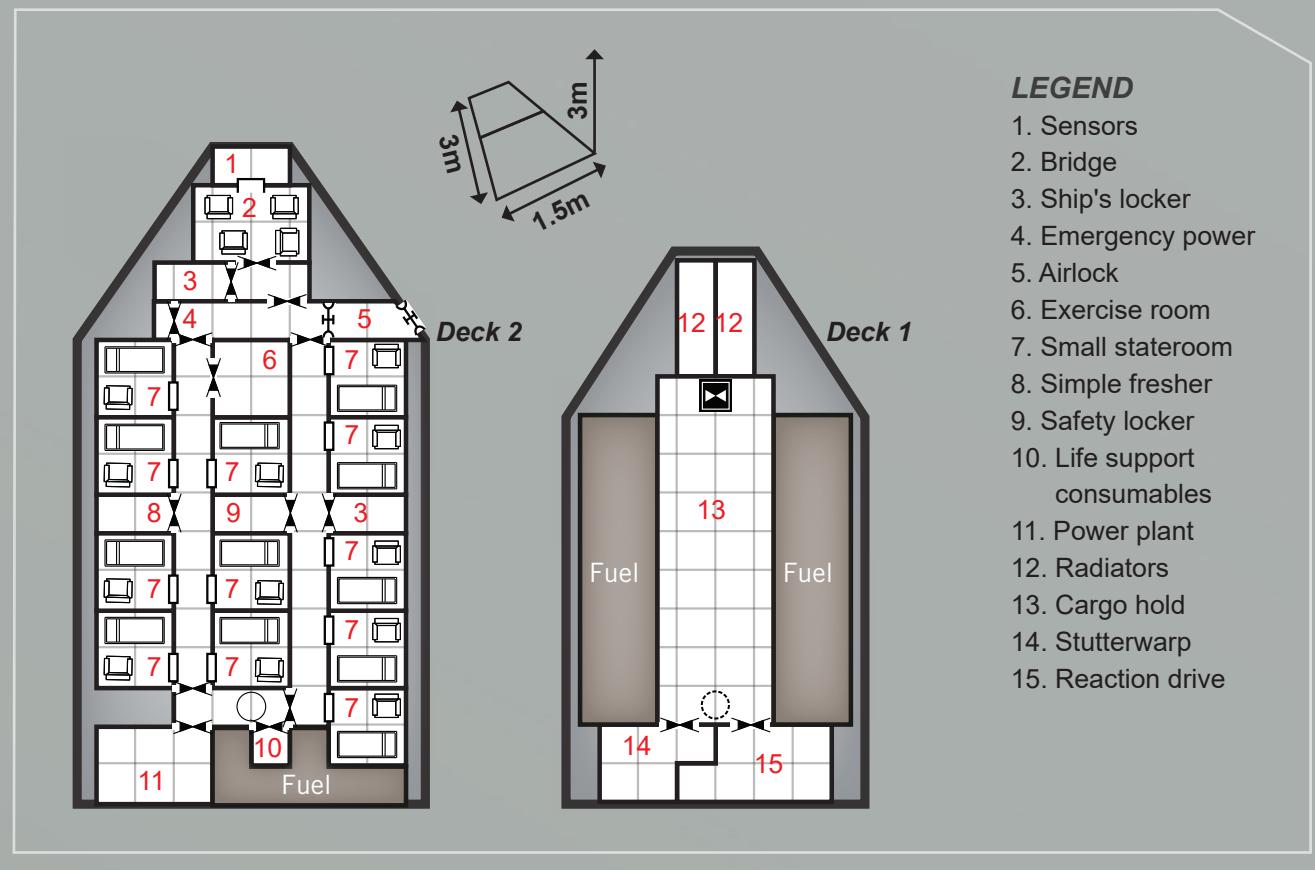
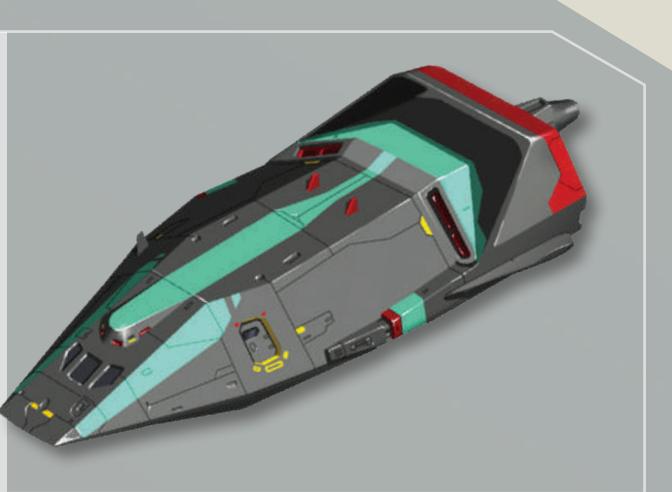
NATION: Germany
FIRST EXAMPLE LAID DOWN: 2282
MANUFACTURER: Koenig Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 33 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Germany, Freihafen, Independent
NUMBER IN SERVICE: 63
LENGTH: 21.27 m
WIDTH: 7.09 m
WINGSPAN: 8.51 m
TAKE-OFF MASS (FULLY FUELLED): 600 tons
POWER PLANT: Rheinmetall Energy Systems J300 3 MW MHD Turbine
REACTION DRIVE: Koenig RK-80 0.8 MW Plasma-Augmented Scramjet, 2,400 tons thrust
STUTTERWARP: Koenig SC-202 2 MW Gen II Jerome-effect Stutterwarp
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 800 km/h
TAKE-OFF ROLL: 320 m

LANDING ROLL, UNPOWERED: 540 m
LANDING ROLL, POWERED: 180 m
MAXIMUM AIRSPEED: Subsonic
CRUISING AIRSPEED: Very Fast
ENDURANCE: 1 Hour per Burn

The Merkur is a common interplanetary courier, although crewed for long-duration missions, and can make interstellar crossings. It is one of the smallest interstellar craft available. The small crew dictates that it cannot be rated as a commercial vessel and is thus unable to take on paying passengers – at least, in theory. In practice, Merkur captains will often take on passengers, typically with no questions asked, with payment in cash. In these cases, logs often indicate there are no passengers onboard.

The ability of the Merkur to make unassisted planetfall without support infrastructure (aside from refuelling facilities), makes this small ship attractive to small governments, businesses and ‘entrepreneurs’.

TL11		Tons	Cost (MLv)
Hull	80-ton Synthetic Lifting Body	—	2.24
Hull Features	Heat Shield, STOL, Frontier Operations	0.8	1.68
Reaction Drive	Thruster (air-breathing)	3.52	2.4
Stutterwarp	2.82 ly/day, Tac Speed: 3, System Speed: 1.82 AU per day	2.24	4.47
Power Plant	MHD Turbine (Power 30)	3	1.2
Emergency Power	Power 0.8 (24 hours)	0.096	0.096
Fuel Tanks	Thruster (7 Burns)	14	—
	Power Plant (1 week)	7.5	—
Radiators	Conventional, Capacity 30	3	0.15
Bridge	Small, with Neural Link, Encrypted Comms	3	1.6
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Nav Array	1	0.1
Weapons	Hardpoint	—	0.1
Systems	Exercise Equipment for 3, Safety Lockers x2, Ship's Locker, Simple Fresher	3.75	0.955
Airlocks	Standard Airlock	—	—
Accommodations	Small Staterooms x12	24	1.2
Software	Archive, Intellect, Manoeuvre, Neural Interface	—	2
Life Support Consumables	28 days for 12 people	0.67	—
Cargo		13.42	—
Total: MLv16.46			



Crew	Passengers	Hull Points	Signature: 2
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineer, Life support Tech, Electronics Tech Comfort Rating: -2	2	8	Base Reflected: 0 Base Radiated: 2

Running Costs

Maintenance Cost: Lv1372/month
Purchase Cost: MLv16.46

Power Requirements

Basic Ship Systems	0.8
Reaction Drive	8
Stutterwarp	20
Sensors	2

PRONGHORN FAST COURIER

NATION: United States

FIRST EXAMPLE LAID DOWN: 2258

MANUFACTURER: Trilon Aerospace Division

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 150 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United States, Australia, Brazil

NUMBER IN SERVICE: 12

LENGTH: 38.49 m

WIDTH: 19.25 m

LAUNCH MASS (FULLY FUELLED): 1,500 tons

POWER PLANT: Hyde Power Systems Beagle-2 10 MW MHD Turbine

REACTION DRIVE: Trilon Orbital Engine Systems OS-20 2 MW Advanced OMS Thruster, 2,000 tons thrust

STUTTERWARP: Trilon P-80 8 MW Gen II Jerome-Effect Stutterwarp

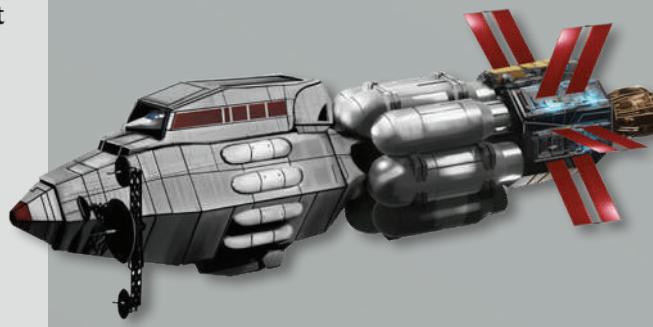
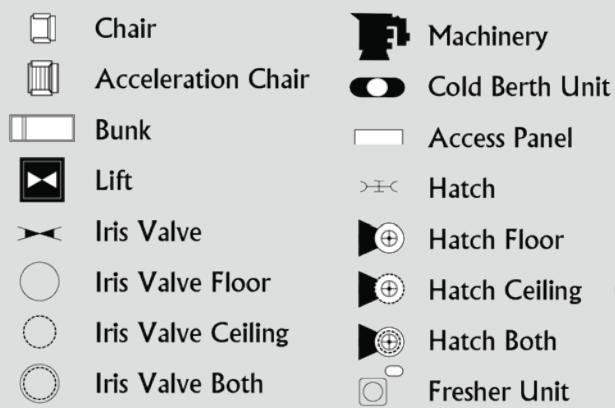
Designed by Trilon for the American Space Force, its limited acceptance by the military led to the company selling it on the open market. It became quite popular

with American and Australian customers, and saw some sales to Indonesia, Brazil and Japan as well.

Similar to the Manchurian design, the Pronghorn is not interface capable but carries a small drop pod and some also carry a spaceplane in an internal berth. It is built around the large MHD power plant and stutterwarp drive; all else are secondary considerations. The OMS drives are limited at best and only employed when the ship is required to launch a pod. Otherwise, it stays beyond the Wall.

As this vessel is so fast, internal crew fittings and comforts are minimal. It is registered as a 'non-commercial' vessel, allowing it to have a smaller crew than would otherwise be the case. This means long shifts with only a few crew in position, typically two on the bridge and one in engineering.

TL12		Tons	Cost (MLv)
Hull	200-ton Synthetic Spaceframe	—	4.8
Hull Features	Radiation Shield, Advanced	—	5
Reaction Drive	OMS Thruster (advanced)	5.4	4.8
Stutterwarp	4.82 ly/day, Tac Speed: 5 System Speed: 3.1 AU/day	4.22	21.08
Power Plant	MHD Turbine (Power 100)	8.33	4.58
Emergency Power	Power 2 (24 hours)	0.05	0.05
Fuel Tanks	OMS Thruster (4 Burns)	21.6	—
	Power Plant (1 week)	25	—
	Subcraft Fuel 1 refills	6.7	—
Radiators	Conventional, Capacity 100	10	0.5
Bridge	Small, with Neural Link, Encrypted Comms, Laser Comm	5.5	7.5
Computer	Primary: Computer/20 Secondary: Computer/15	—	3.5
Sensors	Basic Nav Array, DSS	3	1.6
Weapons	Hardpoint	—	0.1
Systems	Automed, Safety Locker, Ship's Locker, Simple Fresher	1	0.41
Sub-Craft	Turmfalke Spaceplane in Berth, L-50 Drop Pod in Berth	77	11.82
Accommodations	Small Staterooms x14	28	1.4
Software	Archive, Intellect, Manoeuvre, Neural Interface, Stutterwarp Control	—	3.75
Life Support Consumables	14 days for 14 people	0.39	—
Cargo		1.80	—
Total: MLv63.8			

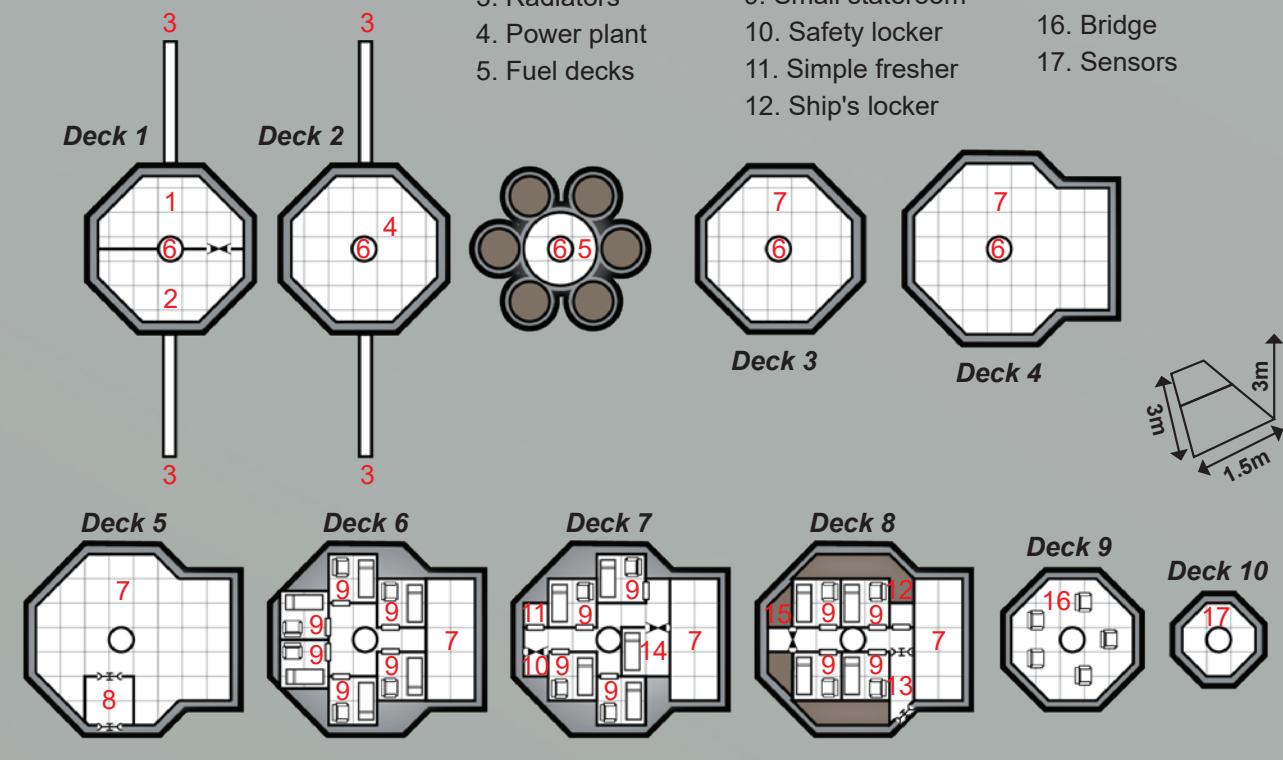
**LEGEND**

1. Reaction drive
2. Stutterwarp
3. Radiators
4. Power plant
5. Fuel decks

6. Access tube

7. Berths
8. Cargo hold
9. Small stateroom
10. Safety locker
11. Simple fresher
12. Ship's locker

13. Airlock
14. Automated
15. Life support consumables
16. Bridge
17. Sensors

**Crew**

Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineer, Small Craft Tech, Life Support Tech, Electronics Tech, Small Craft Pilots x2

Comfort Rating: -1

Passengers**Hull Points****Signature: 2**

Base Reflected: 2
Base Radiated: 2

Running Costs

Maintenance Cost: Lv5317/month
Purchase Cost: MLv63.8

Power Requirements

Basic Ship Systems

Power

2

Reaction Drive

20

Stutterwarp

80

Sensors

12

MILITARY VESSELS

Military spacecraft cover a far wider range than mighty warships. Many mirror commercial roles, although the demands of military operations and the dangers they can face necessitate tougher, more capable and more expensive designs.

LANDERS

Surface to orbit transit for military forces is of vital importance in times of conflict. Landers provide that essential service but are susceptible to attack by anti-aircraft defences and aerospace fighters. Most combat landers are therefore armed to defend themselves and in some cases provide battlefield support.

LCIT (LANDING CRAFT INTERFACE TRANSPORT)-66 'CROC'

NATION: Australia

FIRST EXAMPLE LAID DOWN: 2266

MANUFACTURER: Hanson Aeronautics

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 23 Days

SERVICE STATUS: Out of Service

FLEETS OF SERVICE: Australia

NUMBER IN SERVICE: 194

LENGTH: 16.88 m

WIDTH: 5.63 m

WINGSPAN: 6.75 m

TAKE-OFF MASS (FULLY FUELLED): 369 tons

POWER PLANT: Austal Power Systems J-10 1 MW

MHD Turbine

REACTION DRIVE: Hanson RK-4 0.4 MW Plasma-Augmented Scramjet 1,200 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,200 km/h

TAKE-OFF ROLL: 320 m

LANDING ROLL, UNPOWERED: 540 m

LANDING ROLL, POWERED: 180 m

MAXIMUM AIRSPEED: Transonic

CRUISING AIRSPEED: Subsonic

ENDURANCE: 1 Hour per Burn

In the mid-22nd Century, Australia was looking to replace both its utility landing craft and combat landers. At that time, it was also looking for cost-

savings and saw potential in the international market for a new military lander. The proposal was for a multirole utility/combat lander, a single design to do everything. Hanson Aeronautics, a mid-size producer of transport aircraft, stepped up a concept for a new lander, initially unnamed. It in turn took design cues from the Canadian-made Bison, originally designed for the civilian frontier market, but the prospect of a military contract led to a redesign to include weapon bays. They were never able to successfully fit a turret, however.

After trials in the late 2250s, the design entered production at Hanson's Adelaide factory. There were numerous problems and delivery was delayed until the mid-2260s. By then most international partners had backed out and Australia was going it alone. The first model rolled off the assembly in 2263 and production continued until the initial order for 200 was filled. Hanson tried to find customers on the civilian market but by then the Bison had a near-overwhelming advantage.

The LCIT-66 carries a large ordnance load but the lack of a gun system was a major negative for international buyers. In utility mode, the LCIT-66 could carry 13 tons into low-orbit and as an assault lander it could carry one of the then-new Kangaroo hover IFVs and its troop complement.

The LCIT-66 became known as the 'Croc' to the crews that operated it. The official story is that it is named for Australia's infamous, and deadly, salt-water crocodiles. Another story is that the crews considered it to be a 'crock of garbage'.

The Croc has an additional two Burn of fuel for orbital operations, extended atmospheric operations and to increase its operational world Size range.

TL11		Tons	Cost (MLv)
Hull	40-ton Composite Lifting Body	—	1.36
Hull Features	Heat Shield, VTOL, Frontier Operations	0.8	0.87
Armour	5	1	0.6
Reaction Drive	Thruster (air-breathing, low orbit)	1.32	0.9
Power Plant	MHD Turbine (Power 10)	1	0.4
Fuel Tanks	Thruster (8 Burns)	8	—
	Power Plant (14 hours)	0.21	—
Radiators	Conventional, Capacity 10	1	0.05
Bridge	Flight Deck, Encrypted Comms	3	1.2
Computer	Primary: Computer/10 fib Secondary: Computer/5 fib	—	0.1425
Sensors	Basic Military	2	4
Weapons	Aero-12 Anti-Vehicle Missiles in Retractable Mounts x10, Aero-27 Heavy Anti-Aircraft Missiles in Retractable Mounts x4, 200kg Bombs in Fixed Mounts x10, Decoy Dispensers in Fixed Mounts x2	4.8	0.199
Targeting	Fire Control +1	—	—
Systems	Safety Locker, Ship's Locker, Simple Fresher	0.75	0.155
Sub-Craft	Kangaroo IV Hover IFV in Berth	10.45	1.383
Accommodations	Acceleration Couches x11	2.75	0.33
Software	Intellect, Manoeuvre	—	1
Cargo		2.92	—
Total: MLv11.38			

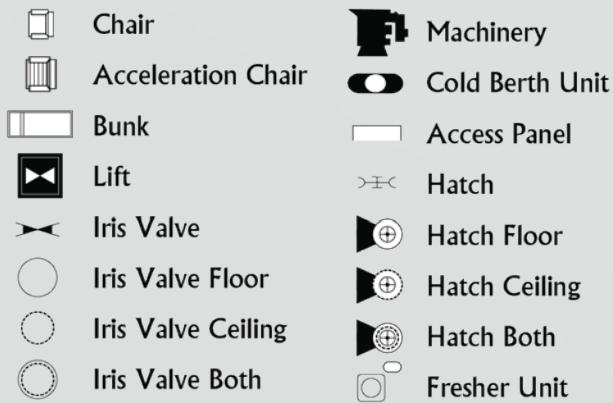
Crew	Passengers	Hull Points	Signature: 1
Pilot, Co-pilot, Weapons Officer Comfort Rating: -1	10	4	Base Reflected: 0 Base Radiated: 1

Running Costs
Maintenance Cost: Lv948/month
Purchase Cost: MLv11.38

Power Requirements	Power
Basic Ship Systems	0.4
Reaction Drive	4
Sensors	5



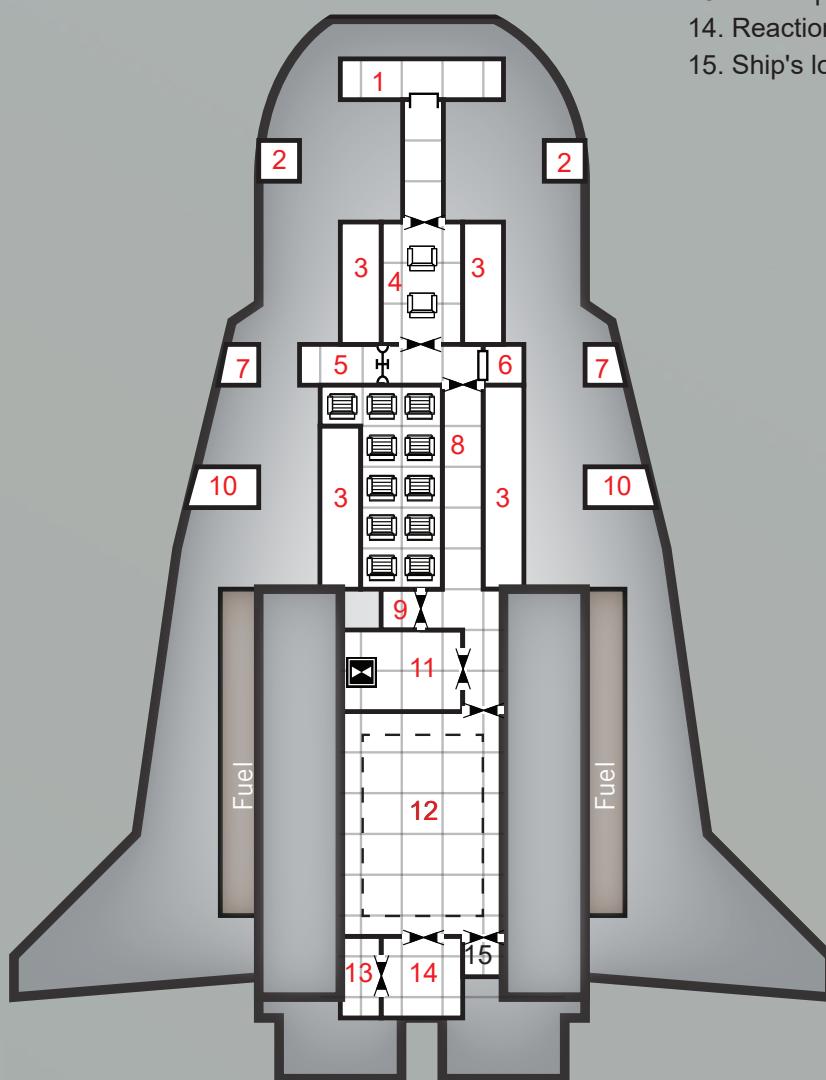
LCIT (LANDING CRAFT INTERFACE TRANSPORT)-66 'CROC'



LEGEND

1. Sensors
2. Aero-12
3. Radiators
4. Bridge
5. Airlock
6. Simple fresher
7. Aero-27
8. Acceleration couches
9. Safety locker
10. 200kg bombs
11. Cargo hold
12. Berth
13. Power plant
14. Reaction drive
15. Ship's locker

3m
3m
1.5m



EDA-60 (AIGLE ROYAL) MEDIUM COMBAT LANDER

NATION: France
FIRST EXAMPLE LAID DOWN: 2283
MANUFACTURER: L'Étage Aerospace
PRODUCTION STATUS: Out of Production
CONSTRUCTION TIME: 50 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Australia
NUMBER IN SERVICE: 56
LENGTH: 19.33 m
WIDTH: 6.44 m
WINGSPAN: 7.73 m
TAKE-OFF MASS (FULLY FUELLED): 556 tons
POWER PLANT: L'Étage RG-13 1.3 MW MHD Turbine
REACTION DRIVE: L'Étage M250 0.6 MW Plasma-Augmented Scramjet with Thrust Vectoring 1,800 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,800 km/h
TAKE-OFF ROLL: 480 m

LANDING ROLL, UNPOWERED: 810 m
LANDING ROLL, POWERED: 270 m
MAXIMUM AIRSPEED: Supersonic
CRUISING AIRSPEED: Transonic
ENDURANCE: 1 Hour per Burn

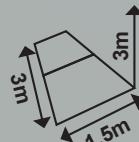
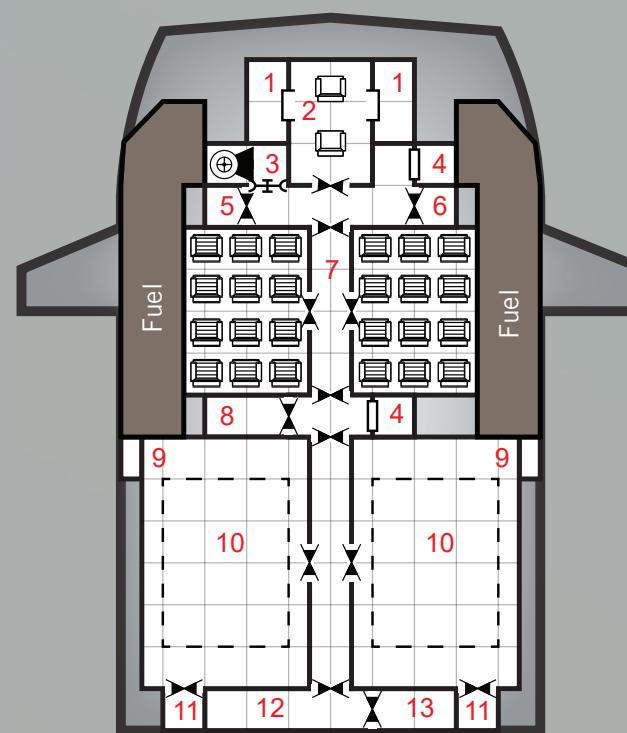
The initial 'wish list' for a medium combat lander was already out to French aerospace manufacturers in a request for proposals when failure of the lighter LC-10 made the news. Analysts determined this had been making it a stutterwarp-capable vessel, rather than a straight interface craft, costing space and resources better used for weapons and defences.

The EDC-60 was a response to this. It included a laser-based anti-missile system, decoy dispenser and heavier armour, all while carrying two of the heavy Auroch wheeled IFVs. Although the price tag was significantly higher it was seen as a better deal, not least because it was more survivable.

TL12		Tons	Cost (MLv)
Hull	60-ton Composite Lifting Body	—	2.04
Hull Features	Heat Shield, Advanced, VTOL, Frontier Operations	3	2.55
Armour	6	1.8	1.08
Reaction Drive	Thruster (air-breathing)	1.98	1.35
Power Plant	MHD Turbine (Power 13)	1.08	0.6
Fuel Tanks	Thruster (8 Burns)	12	—
	Power Plant (12 hours)	0.234	—
Radiators	AHDR, Capacity 13	0.65	0.325
Bridge	Flight Deck, Encrypted Comms	3	1.25
Computer	Primary: Computer/15 fib Secondary: Computer/10 fib	—	1.62
Sensors	Basic Military	2	4
Weapons	Aero-12 Anti-Vehicle Missiles in Retractable Mounts x10, 25mm rotary AC in Retractable Mount, Anti-Missile Laser in Fixed Mount, Decoy Dispensers in Fixed Mounts x2	2.8	0.341
Targeting	Fire Control for Mounted Weapons (+1)	—	—
Systems	Armoury, Safety Locker, Ship's Locker, Simple Fresher	2.75	0.655
Sub-Craft	Auroch IFVs x2 in Berth	23.925	3.7325
Airlocks	Standard Airlock	—	—
Accommodations	Acceleration Couches x24	6	0.72
Software	Archive, Intellect, Manoeuvre, Neural Interface, Security/1	—	8
Cargo		0.58	—
Total: MLv25.43			

EDA-60 MEDIUM COMBAT LANDER

	Chair		Machinery
	Acceleration Chair		Cold Berth Unit
	Bunk		Access Panel
	Lift		Hatch
	Iris Valve		Hatch Floor
	Iris Valve Floor		Hatch Ceiling
	Iris Valve Ceiling		Hatch Both
	Iris Valve Both		Fresher Unit



14
14

15

16

LEGEND

- 1. Sensors
- 2. Bridge
- 3. Airlock
- 4. Simple fresher
- 5. Ship's locker
- 6. Cargo space
- 7. Acceleration couches
- 8. Armoury
- 9. Radiators
- 10. Berth
- 11. Decoy dispenser
- 12. Reaction drive
- 13. Power plant
- 14. Aero-12 (underside)
- 15. 25mm rotary AC (dorsal)
- 16. AM laser

Crew	Passengers	Hull Points	Signature: 2
Pilot, Weapons Officer	12	7	Base Reflected: 0 Base Radiated: 2

Running Costs

Maintenance Cost: Lv2119/month
Purchase Cost: MLv25.43

Power Requirements

Basic Ship Systems	0.6
Reaction Drive	6
Sensors	5
Weapons	1

Power

EDA-150 (GYPAÈTE BARBU)**HEAVY COMBAT LANDER**

NATION: France

FIRST EXAMPLE LAID DOWN: 2281

MANUFACTURER: Darlan Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 114 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 120+

LENGTH: 26.23 m

WIDTH: 8.74 m

WINGSPAN: 10.49 m

TAKE-OFF MASS (FULLY FUELLED): 1,380 tons

POWER PLANT: Royce Javelin 45 4.5 MW MHD Turbine

REACTION DRIVE: Darlan Plasma Drive Systems L150

1.5 MW Plasma-Augmented Scramjet with Thrust

Vectoring, 4,500 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/

PRESSURE): 1,800 km/h

TAKE-OFF ROLL: 1,200 m

LANDING ROLL, UNPOWERED: 2,025 m

LANDING ROLL, POWERED: 675 m

MAXIMUM AIRSPEED: Supersonic

CRUISING AIRSPEED: Transonic

ENDURANCE: 1 Hour per Burn

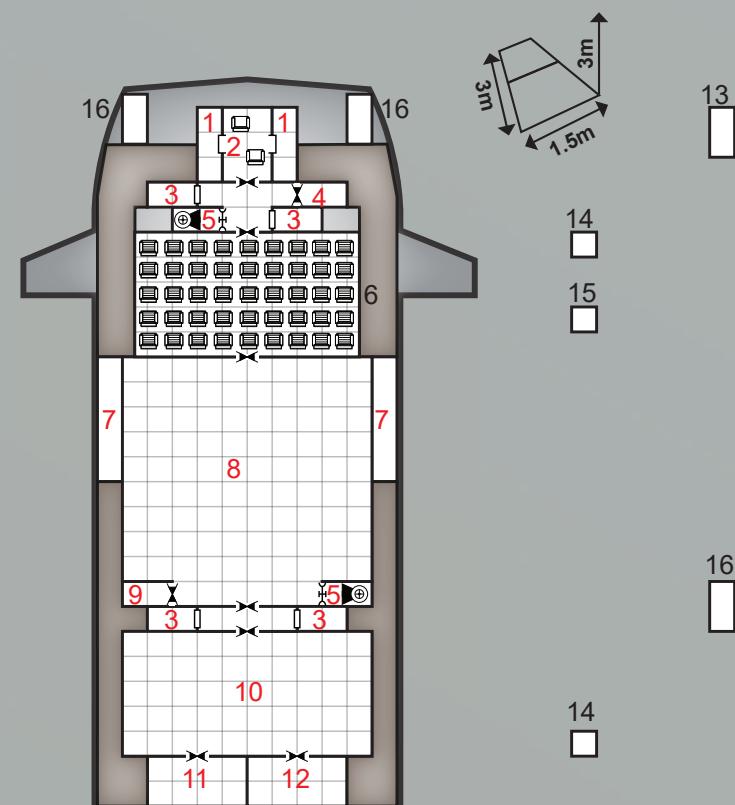
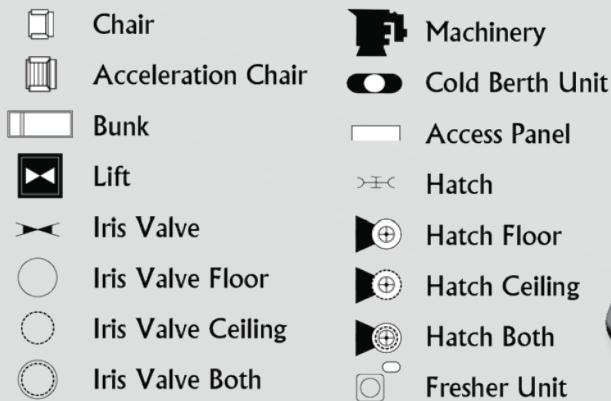
The EDA-150 (Engin de Débarquement Aérospatial-150 tons) is a large, high-capacity landing craft with impressive armament and significant armour protection, designed to be the companion craft to the Suffren cruiser and intended to operate under the protection of the cruiser's artillery railguns. Doctrine calls for the cruiser to first use its railguns to clear a landing zone and suppress anti-aircraft fire. The EDA-150 then lands hot, dropping troops and vehicles before clearing the landing zone.

The version of the EDA-150 on the Suffren carries 40 troops and four wheeled armoured vehicles.

The EDA-150 has an additional Burn of fuel for orbital operations and to increase its operational world Size range.

TL12		Tons	Cost (MLv)
Hull	150-ton Composite Lifting Body	—	5.1
Hull Features	Heat Shield, Advanced, VTOL, Frontier Operations	1.5	6.6
Armour	4	3	1.8
Reaction Drive	Thruster (air-breathing, advanced)	3.75	4.69
Power Plant	MHD Turbine (Power 45)	3.75	2.06
Fuel Tanks	Thruster (7 Burns) Power Plant (24 hours)	26.25 1.62	— —
Radiators	Conventional, Capacity 45	5	0.25
Bridge	Flight Deck, with Neural Link, Encrypted Comms	3	1.38
Computer	Primary: Computer/15 fib Secondary: Computer/10 fib	—	1.62
Sensors	Advanced Military	3	2
Weapons	Anti-Missile Lasers in Retractable Mounts x2, 65mm Mass Driver in Retractable Mount, Heavy Plasma Guns (Clp1A) in Retractable Mounts x4, Aero-12 Anti-Vehicle Missiles in Retractable Mounts x12	7.2	17.07
Systems	Safety Locker, Ship's Locker, Simple Freshers x4	3.5	0.67
Sub-Craft	Auroch IFVs x4 in Berths	47.85	6.125
Airlocks	Standard Airlocks x2	—	—
Accommodations	Acceleration Couches x45	11.25	1.35
Software	Archive, Intellect, Manoeuvre, Neural Interface	—	2
Cargo		29.33	—
Total: MLv46.65			

EDA-150 HEAVY COMBAT LANDER



LEGEND

1. Sensors
2. Bridge
3. Simple fresher
4. Safety locker
5. Airlock
6. Acceleration couches
7. Radiators
8. Berths
9. Ship's locker
10. Cargo hold
11. Reaction drive
12. Power plant
13. Mass driver (dorsal)
14. Plasma guns (underside)
15. Anti-missiles laser (dorsal)
16. Aero-12 (underside)

Crew	Passengers	Hull Points	Signature: 2
Pilot, Co-Pilot, Gunnery Officers x3	40 Troops	19	Base Reflected: 1 Base Radiated: 2

Running Costs

Maintenance Cost: Lv3888/month
Purchase Cost: MLv46.65

Power Requirements

Basic Ship Systems	1.5
Reaction Drive	15
Sensors	10
Weapons	16

Power

BEACHHEAD DROP FORTRESS

NATION: Manchuria

FIRST EXAMPLE LAID DOWN: 2268

MANUFACTURER: Manchurian Aerospace Science and Industry Corporation (MASIC)

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 290 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Manchuria

NUMBER IN SERVICE: 90

LENGTH: 48.5 m

WIDTH: 18.19 m

TAKE-OFF MASS (FULLY FUELLED): 3,730 tons

POWER PLANT: Star City Engineering VK-80 8 MW MHD Turbine

REACTION DRIVE: MASIC Z40 4 MW Plasma-Augmented Thruster, 12,000 tons thrust

The Beachhead is a uniquely-Manchurian design, an armed and armoured base built into a 400-ton drop capsule. Unlike most drop capsules, it uses thrusters for the last 100 metres of its descent, allowing the fortress to position itself precisely. Once down, hydraulic systems level the craft, then drive deep anchors into the surrounding terrain. When so anchored in solid rock, the fortress can withstand a significant flash-flood or even a tsunami event. Once landed, the Beachhead is unable to leave, as the drive is only designed for the last leg of the landing; after touchdown, a Beachhead is there to stay.

Developed after the end of the Central Asian War, drop fortresses were devised as means to provide rallying and resupply centres for advancing troops. Fortresses can be resupplied by air, ground or even further drop modules. A significant drawback of the fortress is the need for both air superiority and to effectively suppress ground-based anti-aircraft fire. All aeroshell craft are extremely vulnerable in their descent stage, as they have little manoeuvring capability, even with thrusters.

Once down, the fortress can deploy anti-aircraft and anti-armour defences, typically missiles and fast-recycle mass drivers. It carries a full company of troops during the drop, along with all required crew. The troop complement is supported by a pair of Wu

Di Fu (Invincible Battle Axe) tracked armoured personnel carriers and a blade of Type A-6 combat walkers.

The fortress can quarter and support its entire troop complement, although in cramped conditions.

The Bàquán planetary dominance vessel carries two Beachhead drop fortresses as standard.



BEACHHEAD DROP FORTRESS

TL11		Tons	Cost (MLv)
Hull	400-ton Composite Ballistic	—	12
Hull Features	Heat Shield, VTOL, Frontier Operations, Parachute System	24	14.1
Armour	7	14	8.4
Reaction Drive	Thruster (Landing Only)	16	8
Power Plant	MHD Turbine (Power 80)	8	3.2
Fuel Tanks	Thruster (1 Burn)	10	—
	Power Plant (2 weeks)	40	—
Radiators	Conventional, Capacity 80	8	0.4
Bridge	Dual Cockpit, Encrypted Comms	2.5	1.015
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Military	2	4
Weapons	Hardpoint 65mm Mass Drivers in Retractable Mounts x4, Artillery Rocket Pods in Retractable Mounts x4, Anti-Missile Lasers in Retractable Mounts x6, Aero-27 Heavy Anti-Aircraft Missiles in Retractable Mounts x40	33.6	70.694
Systems	Armouries x10, Automeds x10, Ship's Lockers x2, Simple Freshers x4, Freshers x4, Medbays x2, Workshops x2, Common Areas (20 tons)	73.5	25.76
Sub-Craft	A-20 Battleaxe IFVs x2 in Berths, Type 12 Walkers x15 in Berths	39.05	8.025
Airlocks	Standard Airlocks x4, Sortie Airlock for 25	12.5	0.25
Accommodations	Bunks for 180, Small Staterooms x2, Acceleration Couches x100	89	4.7
Software	Archive, Manoeuvre	—	—
Life Support	30 days for 300 people	18	—
Consumables		9.85	—
Cargo			
Total: MLv144.67			

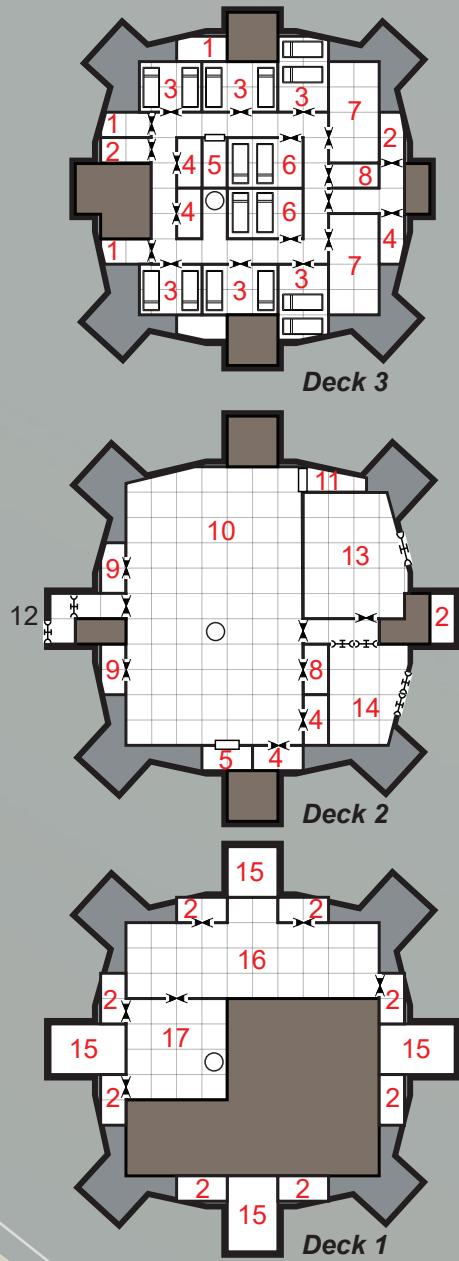
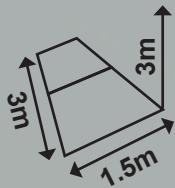
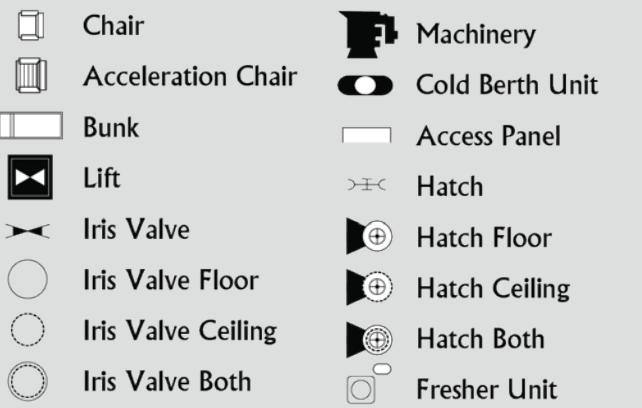
Crew	Passengers	Hull Points	Signature: 2
Pilots x2, Power Engineers x3, Small Craft Techs x2, Life Support Techs x3, Electronics Techs x3, Gunners x14, Security, Ship's Troops x100, Walker Pilots x15, Vehicle Crews x6, Medics x7 Comfort Rating: -2	—	19	Base Reflected: 2 Base Radiated: 2

Running Costs

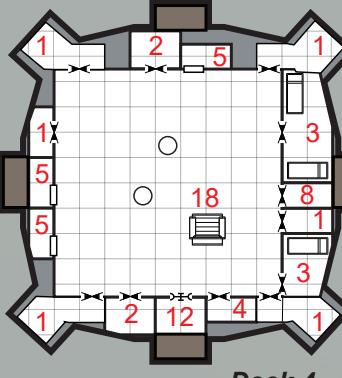
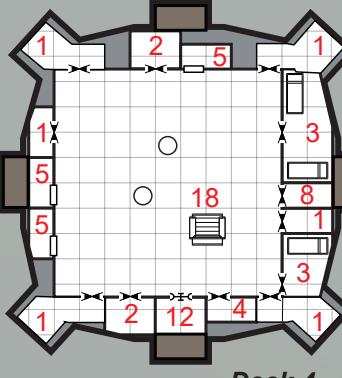
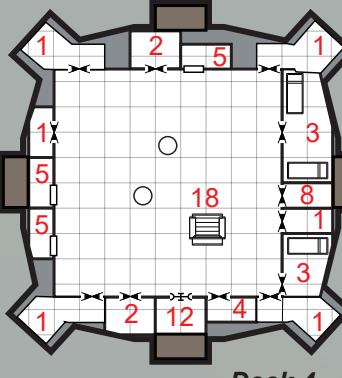
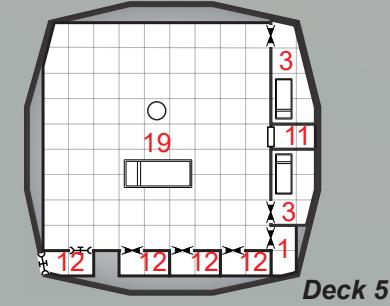
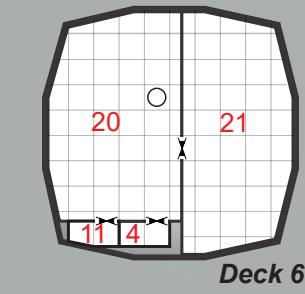
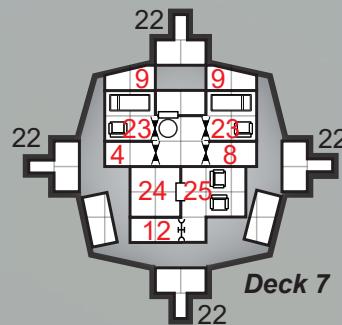
Maintenance Cost: Lv12063/month
Purchase Cost: MLv144.67

Power Requirements

Power Requirements	Power
Basic Ship Systems	4
Reaction Drive	40
Sensors	5
Weapons	62

**LEGEND**

1. Aero-27 x2
2. Artillery rocket pods x4
3. Automed
4. Armoury
5. Simple fresher
6. Medical bay
7. Workshop
8. Ship's locker
9. Anti-missile laser x6
10. Berths
11. Fresher
12. Airlock
13. Cargo hold
14. Airlock (25)
15. Radiators
16. Reaction drive
17. Power plant
18. Acceleration couches
19. Bunks
20. Common area
21. Life support consumables
22. 65mm mass driver x4
23. Small stateroom
24. Sensors
25. Bridge



FIGHTERS

Fighters combine a number of functions in a fleet. They provide force projection, scouting and defend large ships from other fighters. Fighters also provide planetary defence roles and cover to merchant ships from pirates and raiders, at least within a system.

TYPHOON AEROSPACE FIGHTER

NATION: Germany

FIRST EXAMPLE LAID DOWN: 2291

MANUFACTURER: Koenig Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 36 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Germany, Freihafen, Elysia

NUMBER IN SERVICE: 84

LENGTH: 13.4 m

WIDTH: 4.47 m

WINGSPAN: 5.36 m

TAKE-OFF MASS (FULLY FUELLED): 182.7 tons

POWER PLANT: Royce Gazelle R16 1.6 MW MHD Turbine

REACTION DRIVE: Koenig Propulsion Systems RR-20 0.2 MW Plasma-Augmented Scramjet with thrust vectoring, 600 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/

PRESSURE): 6,000 km/h

TAKE-OFF ROLL: 160 m

LANDING ROLL, UNPOWERED: 270 m

LANDING ROLL, POWERED: 90 m

MAXIMUM AIRSPEED: Hypersonic

CRUISING AIRSPEED: Supersonic

ENDURANCE: 1 Hour per Burn

The Typhoon is an aerospace fighter, designed to be space-capable but truly at home in atmosphere. While it can transit from the Wall, it is only effective within atmosphere where its array of weapons can be brought to bear. The primary role is escort of landing craft, where its anti-missile system can protect the much larger landers from other aerospace craft and interceptors. With a change of load-out for its missile armament, it can also be used in a ground support role.

The Typhoon has two additional Burns of fuel for orbital operations, extended atmospheric operations and to increases its operational world Size range. It is usually deployed from Low Orbit if possible to extend the atmospheric flight time.

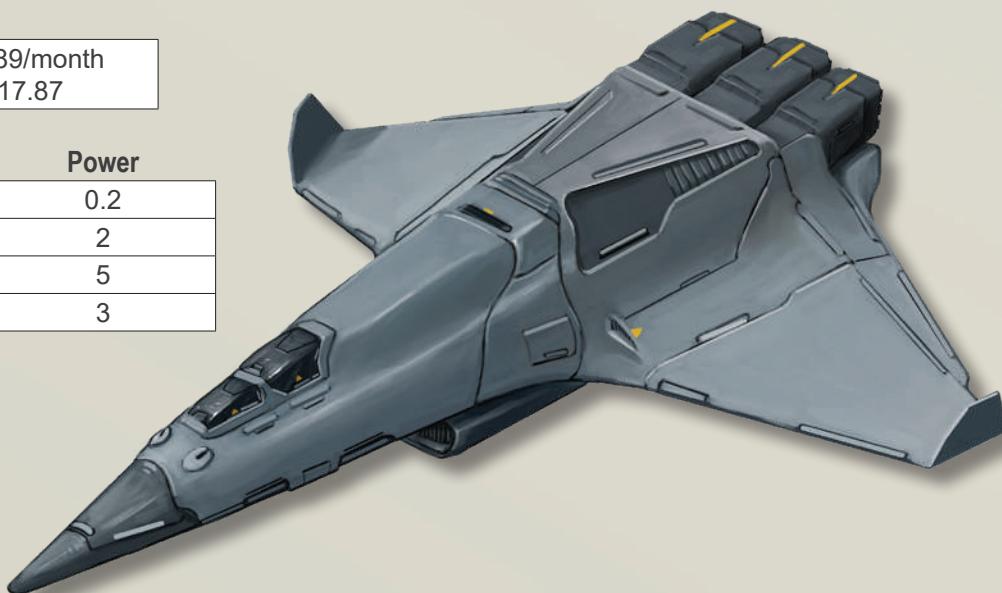
Crew	Passengers	Hull Points	Signature: 2
Pilots x2	—	2	Base Reflected: 0 Base Radiated: 2

Running Costs

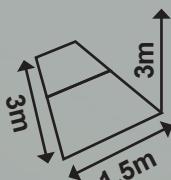
Maintenance Cost: Lv1489/month

Purchase Cost: MLv17.87

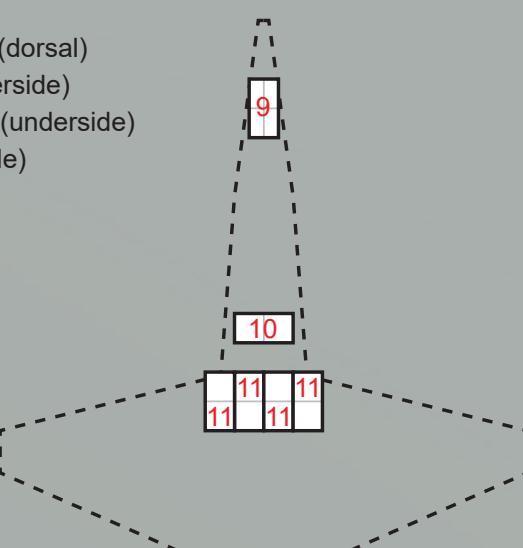
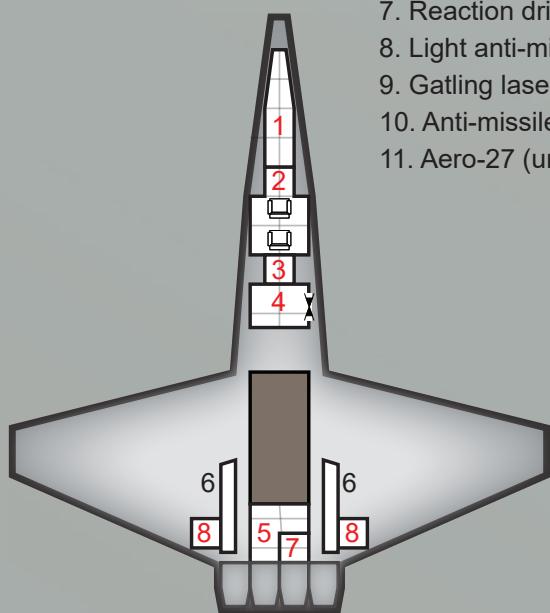
Power Requirements	Power
Basic Ship Systems	0.2
Reaction Drive	2
Sensors	5
Weapons	3



TL12		Tons	Cost (MLv)
Hull	20-ton Composite Lifting Body	—	0.68
Hull Features	Advanced, Heat Shield, VTOL	0.4	0.64
Armour	3	0.3	0.18
Reaction Drive	Thruster (air-breathing, advanced)	0.5	0.625
Power Plant	MHD Turbine (Power 16)	1.33	0.73
Fuel Tanks	Thruster (8 Burns) Power Plant (18 hours)	4 0.432	— —
Radiators	AHDR, Capacity 16	0.8	0.4
Bridge	Dual Cockpit, with Neural Link, Encrypted Comms,	2.5	1.225
Computer	Primary: Computer/15 fib Secondary: Computer/10 fib	—	1.62
Sensors	Basic Military	2	4
Weapons	Gatling Laser in Retractable Mount, Anti-Missile Laser in Retractable Mount, Aero-27 Heavy Anti-Aircraft Missiles in Retractable Mounts x10, Manta-1 Light Anti-Armour Missiles in Retractable Mounts x4	7	4.086
Targeting	Fire Control (DM+1)	0.5	0.045
Systems	Safety Locker	—	0.05
Software	Archive, Fire Control/1, Intellect, Manoeuvre, Neural Interface	—	4
Cargo		1.53	—
Total: MLv17.87			

**LEGEND**

1. Sensors
2. Bridge
3. Fire control
4. Cargo space
5. Power plant
6. Radiators
7. Reaction drive
8. Light anti-missiles (dorsal)
9. Gatling laser (underside)
10. Anti-missile laser (underside)
11. Aero-27 (underside)



MISTRAL FIGHTER

NATION: France

FIRST EXAMPLE LAID DOWN: 2285

MANUFACTURER: L'Étage Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 58 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 240

LENGTH: 15.34 m

WIDTH: 5.11 m

WINGSPAN: 6.14 m

TAKE-OFF MASS (FULLY FUELLED): 278.1 tons

POWER PLANT: L'Étage RG40 4 MW MHD Turbine

REACTION DRIVE: L'Étage TGT 9.2 0.2 MW Plasma-Augmented Scramjet, 900 tons thrust

STUTTERWARP: L'Étage J-7/bis 0.7 MW Gen II Jerome-Effect Stutterwarp

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,800 km/h

TAKE-OFF ROLL: 240 m

LANDING ROLL, UNPOWERED: 405 m

LANDING ROLL, POWERED: 135 m

MAXIMUM AIRSPEED: Supersonic

CRUISING AIRSPEED: Transonic

ENDURANCE: 1 Hour per Burn

The Mistral is the first French fighter to be constructed solely from advanced composite materials, the streamlined design taking advantage of the best stealth technology available. There is a retractable laser array on top of the Mistral for space combat and an underbelly sling capable of carrying two Ritage 1 or 2 missiles, although at some decline in performance. For atmospheric combat, there is a ventral retractable gun turret with a SOL-23 gatling laser, including a tracking system to allow it to defend against incoming anti-aircraft missiles. Rounding out the weapons systems is an ordnance bay usually configured with air-to-air or air-to-ground missiles.

The relatively small MHD plant installed provides enough power for the drives, sensors and weapons to operate simultaneously. Reaction mass is limited, however, as the Mistral is not intended for extended orbital operations. The fuel load supports a transit to the Wall, and a limited amount of fuel for atmospheric operations, but little more.

The Mistral has an additional Burn of fuel for orbital operations and to increase its operational world Size range.

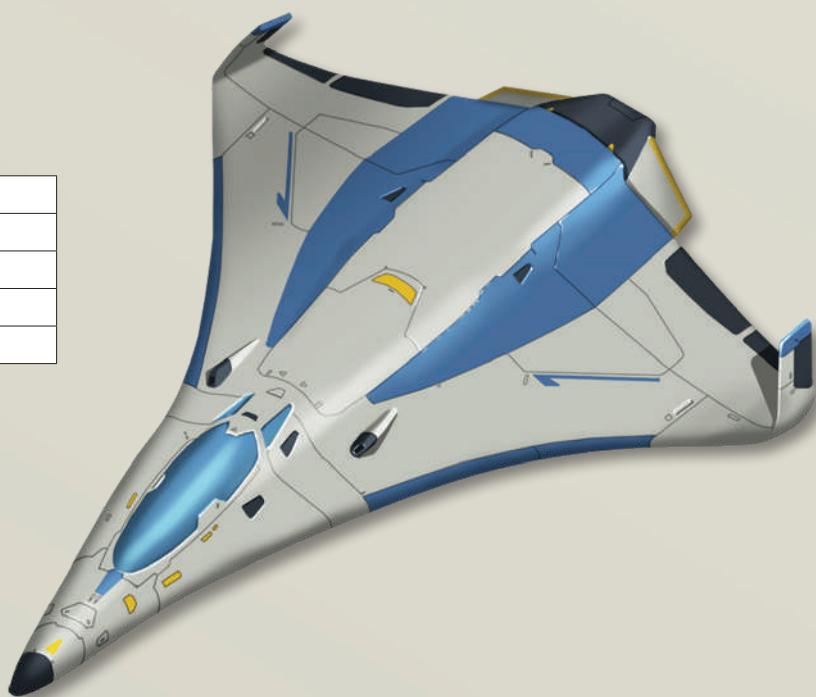
Crew	Passengers	Hull Points	Signature: 2
Pilots x2	—	3	Base Reflected: 0 Base Radiated: 2

Running Costs

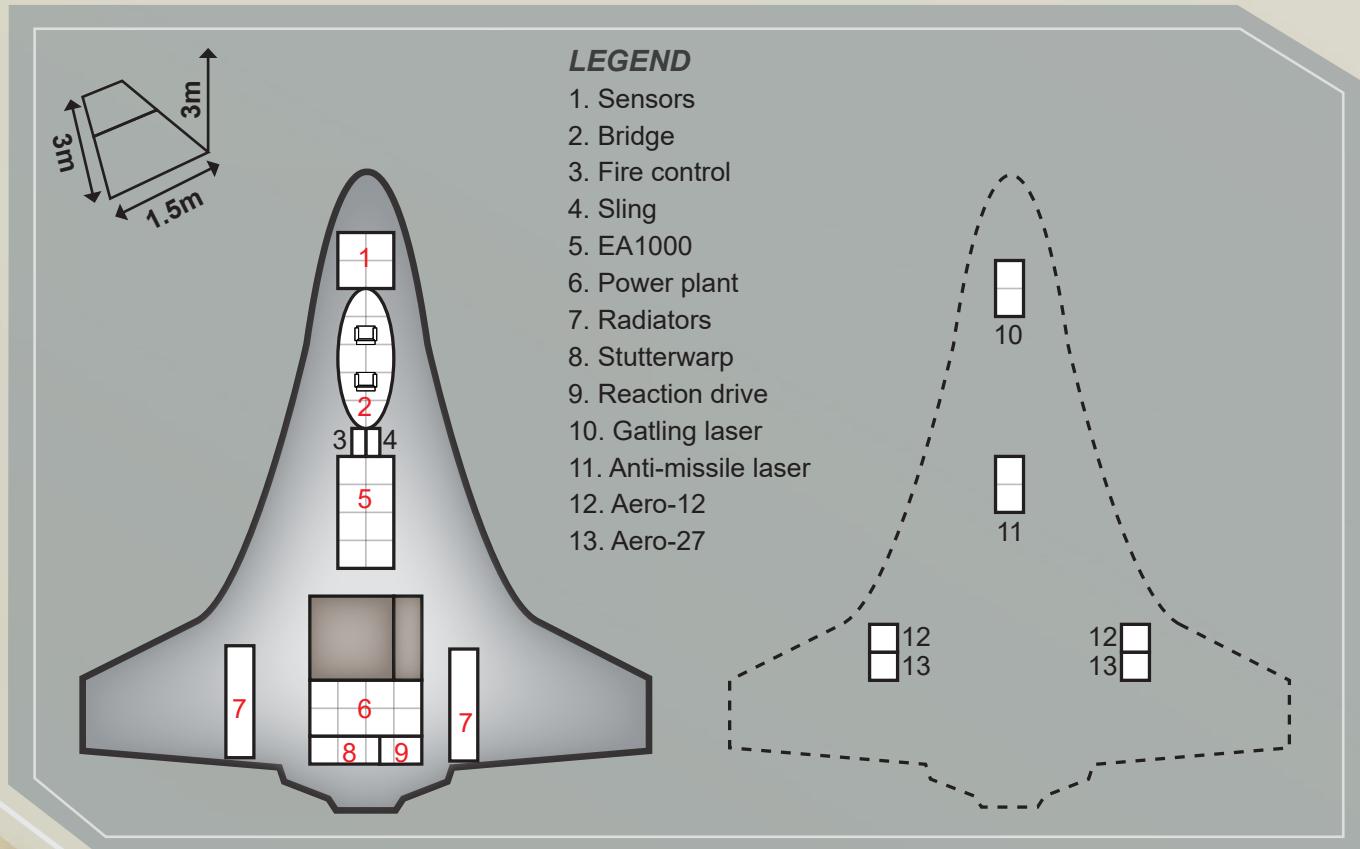
Maintenance Cost: Lv2263/month

Purchase Cost: MLv27.15

Power Requirements	Power
Basic Ship Systems	0.3
Reaction Drive	3
Stutterwarp	7
Sensors	5
Weapons	28



TL11		Tons	Cost (MLv)
Hull	30-ton Composite Lifting Body	—	1.02
Hull Features	Heat Shield, Advanced	—	0.9
Armour	6	0.9	0.54
Reaction Drive	Thruster (air-breathing, advanced)	0.75	0.9375
Stutterwarp	2.86 ly/day, Tac Speed: 3 System Speed: 1.9 AU/day	1.32	2.65
Power Plant	MHD Turbine (Power 40)	4	1.6
Fuel Tanks	Thruster (6 Burns)	4.5	—
	Power Plant (28 hours)	1.68	—
Radiators	Conventional, Capacity 40	4	0.2
Bridge	Dual Cockpit, with Neural Link, Encrypted Comms	2.5	1.0225
Computer	Primary: Computer/20 Secondary: Computer/15	—	7
Sensors	Basic Military	2	4
Weapons	EA1000 (in retractable surface mount), with UTES Gatling Laser in Retractable Mount, Aero-27 Heavy Anti-Aircraft Missiles in Retractable Mounts x4, Anti-Missile Laser in Retractable Mount, Aero-12 Anti-Vehicle Missiles in Retractable Mounts x2	4 4.2	3.6 3.998
Targeting	UTES (+1)	—	—
Ordnance	Combat Drones: Ritage-2 x2 in Sling	—	—
Drone Controllers	1	0.25	0.5
Systems	Sling (4-ton capacity) for Ritage-1 or Ritage-2 Combat Drones x2	0.2	0.04
Software	Archive, Fire Control/1, Manoeuvre, Neural Interface, Stutterwarp Control	—	4.088
Total: MLv27.15			



FS-17A

NATION: United States

FIRST EXAMPLE LAID DOWN: 2259

MANUFACTURER: Hyde Dynamics

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 35 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United States, Australia, Texas

NUMBER IN SERVICE: 300+

LENGTH: 13.4 m

WIDTH: 4.47 m

WINGSPAN: 5.36 m

TAKE-OFF MASS (FULLY FUELLED): 187.2 tons

POWER PLANT: Hyde Power Systems MG-400 4 MW

MHD Turbine

REACTION DRIVE: Hyde PW20 bloc II OMS Thruster, 200 tons thrust

STUTTERWARP: Trilon System-80 0.8 MW Gen II

Jerome-effect Stutterwarp

ATMOSPHERIC FLIGHT SPEED, MAXIMUM GLIDE (STANDARD

DENSITY/PRESSURE): 1,200 km/h

LANDING ROLL, UNPOWERED: 270 m

MAXIMUM AIRSPEED: Transonic (Maximum Glide)

CRUISING AIRSPEED: Subsonic

ENDURANCE: None

The FS-17A is a small, fully streamlined craft possessing an armoured arrow-like fuselage design. While lacking a powerful thruster for interface

operations, it is equipped with a small thruster for orbital operations and transiting. When required, it can be fitted with a pair of boosters allowing it to launch from a planetary surface. The onboard OMS thruster allows a transit to the Wall and back, gliding to a landing after the final re-entry burn.

The FS-17A is operated by a crew of two, a pilot and weapons officer. However, with its single high output EA-1000 laser array locked into a direct forward firing position, the pilot can aim the unit by steering the craft and fire the laser using auxiliary controls located in the cockpit. Note that the array must be retracted before entering the atmosphere.

The Bloc II life extension upgrade in 2290 replaced the older EA-122 laser array and added the newer EA-1000. It also removed the K/A-900 Light TTA that had provided targeting prior to a license-built Arclight unified tracking and engagement system. A sling was also added to allow it to carry a SIM-14 missile or recon drone, although at slight loss in warp efficiency.

While an older design, the FS-17A is well-liked by its pilots due to ease of maintenance and heavy armour protection.

Crew	Passengers	Hull Points	Signature: 2
Pilots x2	—	3	Base Reflected: 0 Base Radiated: 2

Power Requirements

	Power
Basic Ship Systems	0.2
Reaction Drive	2
Stutterwarp	8
Sensors	5
Drone Controllers	2
Weapons	25

Power

Running Costs

Maintenance Cost: Lv1468/month
Purchase Cost: MLv17.62



TL11		Tons	Cost (MLv)
Hull	20-ton Composite Lifting Body	—	0.68
Hull Features	Heat Shield	—	0.2
Armour	8	0.8	0.48
Reaction Drive	OMS Thruster	0.6	0.24
Stutterwarp	3.39 ly/day, Tac Speed: 3 System Speed: 2.2 AU/day	1.41	2.83
Power Plant	MHD Turbine (Power 40)	4	1.6
Fuel Tanks	OMS Thruster (4 Burns)	2.4	—
	Power Plant (24 hours)	1.44	—
Radiators	AHDR, Capacity 40	2	1
Bridge	Dual Cockpit, Encrypted Comms	2.5	1.015
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Military	2	4
Weapons	EA1000 Laser Array (retractable), with UTES	2	3.5
Targeting	UTES (+1)	—	—
Drone Controllers	1	0.25	0.5
Systems	Safety Locker	—	0.05
	Sling (3 tons)	0.15	0.03
Software	Archive, Fire Control/1, Manoeuvre, Stutterwarp Control	—	3.356
Cargo		0.45	—
Total: MLv17.62			



LEGEND

1. Bridge
2. Sensors
3. Drone controllers
4. Sling
5. Safety locker
6. Cargo space
7. EA1000
8. Radiators
9. Reaction drive
10. Power plant
11. Stutterwarp

GUSTAV

NATION: Germany
FIRST EXAMPLE LAID DOWN: 2294
MANUFACTURER: Rheinmetall Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 57 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Germany, Freihafen
NUMBER IN SERVICE: 120
LENGTH: 15.34 m
WIDTH: 5.11 m
WINGSPAN: 6.14 m
TAKE-OFF MASS (FULLY FUELLED): 275.4 tons
POWER PLANT: Rheinmetall 5 MW MHD Turbine
REACTION DRIVE: BRW AG Class T300i 0.3 MW OMS Thruster, 300 tons thrust
STUTTERWARP: BRW AG Class S120n 1.2 MW Gen II Jerome-effect Stutterwarp
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,800 km/h (Maximum Glide)
LANDING ROLL, UNPOWERED: 405 m
MAXIMUM AIRSPEED: Supersonic (Maximum Glide)
CRUISING AIRSPEED: Transonic

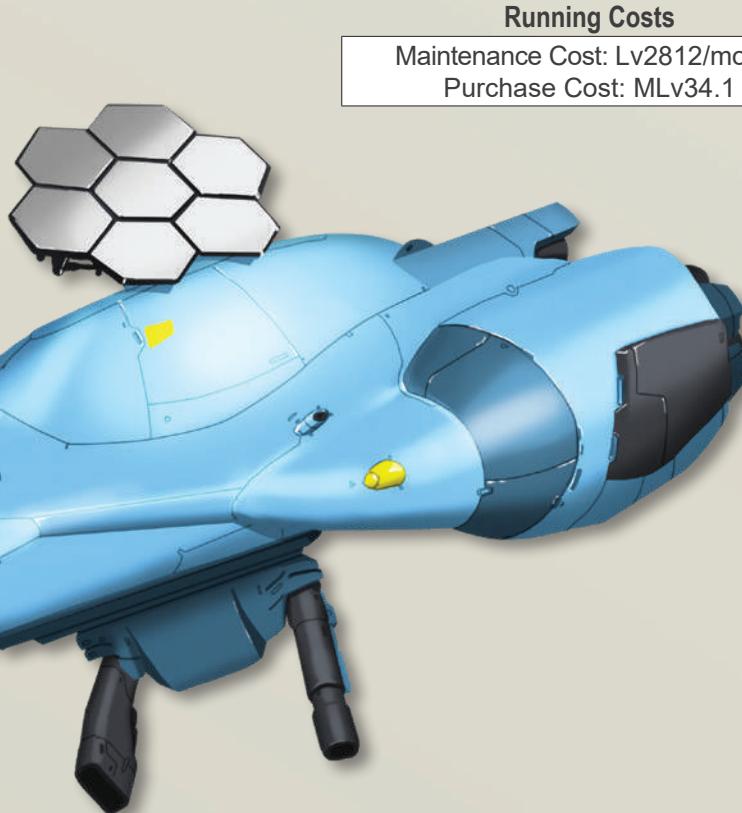
Although based off a Bavarian design, the Gustav has only seen service with the united DSKM. It was one of many vessels on the Bavarian drawing boards before the War of German Reunification. Although modified from the original, the elegant lines of the original Bavarian composite hull design can still be seen.

Although streamlined, the armoured Gustav is not intended for atmospheric operations. The streamlining is a safety measure, in case the pilot has to abort to ground in the event of emergency. Atmospheric re-entry requires the laser array and submunition dispenser to be jettisoned, a dangerous operation in any circumstance. Like the FS-17A, it would require a booster to launch from a planet, although with weapons in place, it cannot launch from any world with Atmosphere 1+.

In practice, the Gustav is almost never deployed near planets. It is a deep-space fighter, with only limited thruster capability for near-orbit operations. Although not equipped with a drone bay, it does have an external sling capable of holding the new SR-10 combat drone.

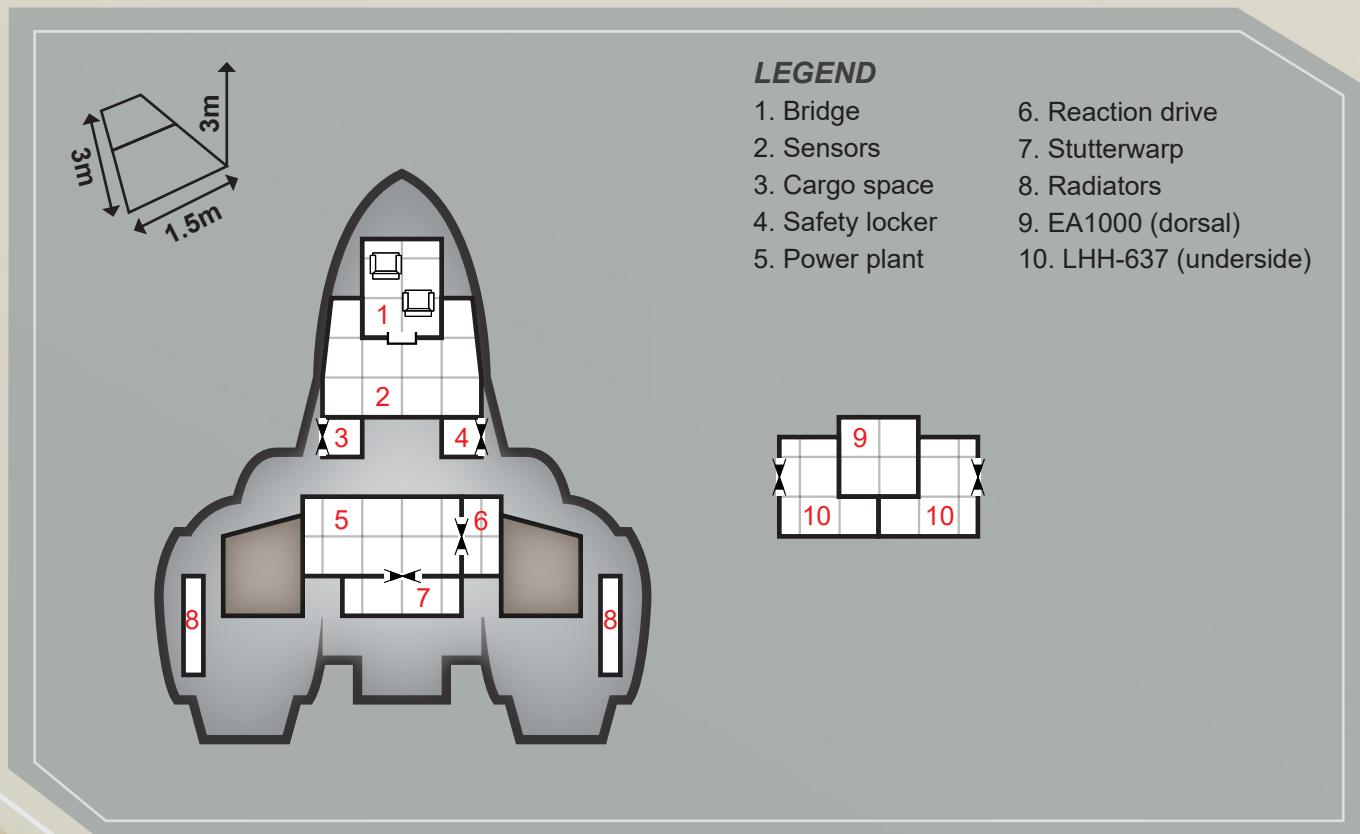
Crew	Passengers	Hull Points	Signature: 2
Pilots x2	—	3	Base Reflected: 0 Base Radiated: 2

Power Requirements	Power
Basic Ship Systems	0.3
Reaction Drive	3
Stutterwarp	12
Sensors	10
Drone Controllers	2
Weapons	25



Running Costs
Maintenance Cost: Lv2812/month
Purchase Cost: MLv34.1

TL12		Tons	Cost (MLv)
Hull	30-ton Composite Lifting Body	—	1.02
Hull Features	Heat Shield, Advanced	—	0.9
Armour	4	0.6	0.36
Reaction Drive	OMS Thruster	0.9	0.36
Stutterwarp	4.37 ly/day, Tac Speed: 4 System Speed: 2.82 AU/day	1.63	8.16
Power Plant	MHD Turbine (Power 50)	4.17	2.29
Fuel Tanks	OMS Thruster (4 Burns)	3.6	—
	Power Plant (18 hours)	1.215	—
Radiators	AHDR, Capacity 50	2.25	1.125
Bridge	Dual Cockpit, with Neural Link, Encrypted Comms	2.5	1.0225
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	5.25
Sensors	Advanced Military, DSS	5	3.5
Weapons	EA1000 (retractable fixed mount) with UTES	2	3.5
Targeting	UTES (+1)	—	—
Ordnance	Submunitions: LHH-637 x2	5.4	5.04
Drone Controllers	1	0.25	0.5
Systems	Safety Locker	—	0.05
	Sling (2 tons)	0.1	0.02
Software	Archive, Fire Control/1, Manoeuvre, Neural Interface, Stutterwarp Control	—	4.664
Cargo		0.6	—
Total: MLv34.1			



ASSEGAI

NATION: Azania
FIRST EXAMPLE LAID DOWN: 2251
MANUFACTURER: Delon Aerospace
PRODUCTION STATUS: Out of Production
CONSTRUCTION TIME: 24 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Independent
NUMBER IN SERVICE: 120+
LENGTH: 17.87 m
WIDTH: 8.93 m
LAUNCH MASS (FULLY FUELLED): 152.4 tons
POWER PLANT: Royce-Consolidated R5.2 2.6 MW MHD Turbine

REACTION DRIVE: Delon J20 2 MW OMS Thruster, 200 tons thrust
STUTTERWARP: M4 0.4 MW Gen II Jerome-effect Stutterwarp

The Azanian Assegai is an older generation of spacecraft, a space-fighter with thrusters for orbital operations and a stutterwarp drive but not capable of atmospheric re-entry. The cruciform shape puts thrusters at the tip of the arms, allowing quick and precise manoeuvring. Armament is basic, an old fixed LL-88 laser array and a berth for a missile, typically a Ritage-1, although the bay is large enough to contain a Ritage-2. This fighter is almost exclusively found in the hands of colonial militias, mercenaries and raiders.

TL11		Tons	Cost (MLv)
Hull	20-ton Synthetic Spaceframe	—	0.48
Hull Features	Radiation Shield	—	0.1
Armour	2	0.32	0.064
Reaction Drive	OMS Thruster	0.6	0.24
Stutterwarp	2.65 ly/day, Tac Speed: 3 System Speed: 1.71 AU/day	1	2
Power Plant	MHD Turbine (Power 26)	2.6	1.04
Fuel Tanks	OMS Thruster (6 Burns)	3.6	—
	Power Plant (10 hours)	0.39	—
Radiators	Conventional, Capacity 26	2.6	0.13
Bridge	Cockpit, Encrypted Comms	1.5	1.01
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.095
Sensors	Basic Military	2	4
Weapons	LL88 (fixed retractable mount)	1	0.65
Targeting	Light TTA (+0)	2	0.25
Ordnance	Combat Drones: Ritage-1	1.95	1.63
Drone Controllers	1	0.25	0.5
Systems	Safety Locker	—	0.05
Software	Archive, Manoeuvre, Stutterwarp Control	—	1.008
Cargo		0.11	—
Total: 11.92			

Crew	Passengers	Hull Points	Signature: 2
Pilot	—	2	Base Reflected: 1 Base Radiated: 2

Running Costs

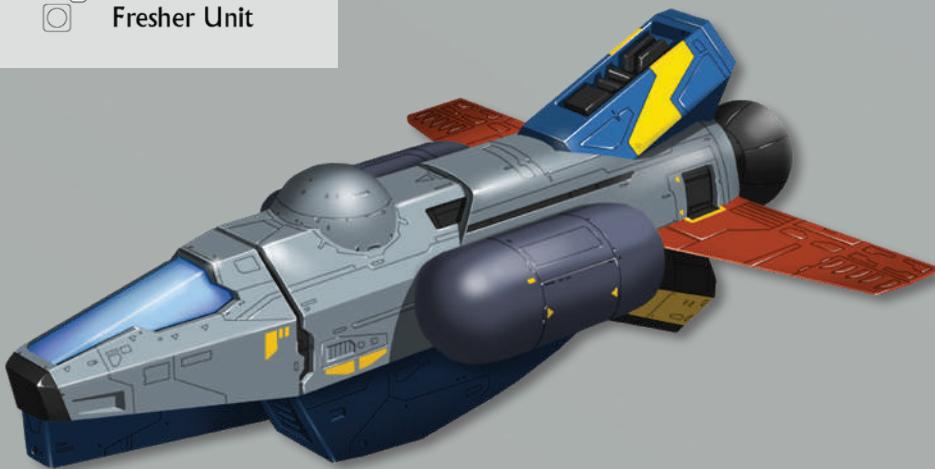
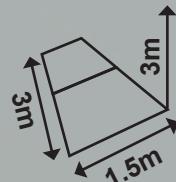
Maintenance Cost: Lv993/month
Purchase Cost: MLv11.92

Power Requirements

Basic Ship Systems	0.2
Reaction Drive	2
Stutterwarp	4
Sensors	5
Drone Controllers	2
Weapons	12.5

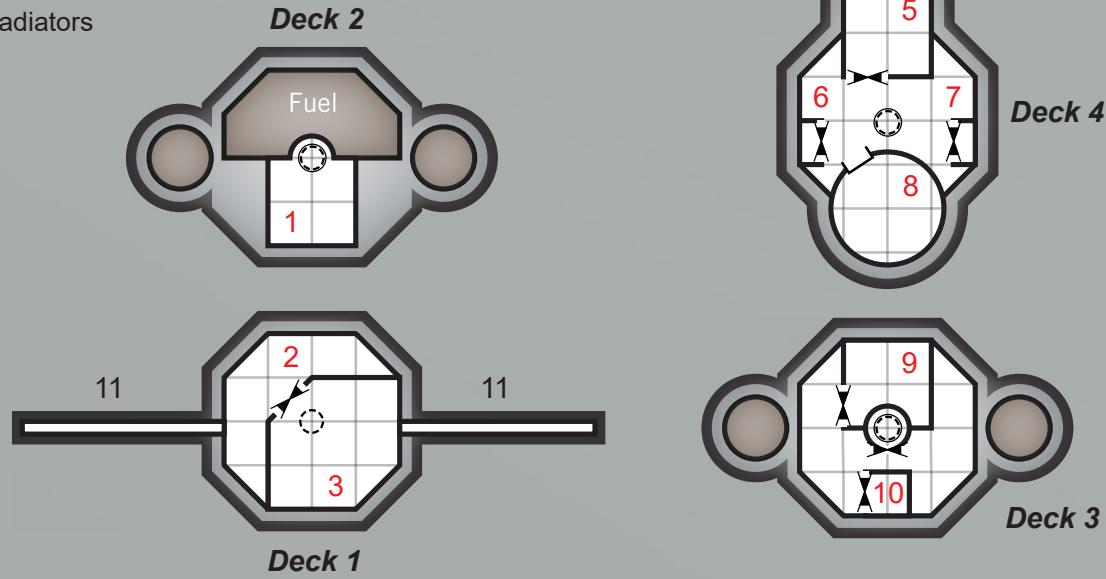
- Chair
- Acceleration Chair
- Bunk
- Lift
- Iris Valve
- Iris Valve Floor
- Iris Valve Ceiling
- Iris Valve Both

- Machinery
- Cold Berth Unit
- Access Panel
- Hatch
- Hatch Floor
- Hatch Ceiling
- Hatch Both
- Fresher Unit



LEGEND

1. LL-88
2. Stutterwarp
3. Powerplant
4. Bridge
5. Ritage-1
6. Drone controller
7. Cargo hold
8. Sensors
9. Light TTA
10. Safety locker
11. Radiators



SMALL SHIPS

Acting as patrol vessels and the eyes of a fleet, small ships are under 500 tons and often capable of interface travel. They tend to be general-purpose spacecraft and are among the most common vessels that Travellers will encounter.

CERBERUS SYSTEM DEFENCE SENSOR CARRIER

NATION: France

FIRST EXAMPLE LAID DOWN: 2295

MANUFACTURER: L'Étage Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 190 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 12

LENGTH: 31.54 m

WIDTH: 15.77 m

LAUNCH MASS (FULLY FUELLED): 825 tons

POWER PLANT: Royce Manticore 5 MW MHD Turbine

REACTION DRIVE: L'Étage B110 1.1 MW OMS Thruster, 1,100 tons thrust

STUTTERWARP: L'Étage J2 0.5 MW Gen II Jerome-effect Stutterwarp

The longscan arrays being deployed at several French colony systems have a missing link, a GADS sensor able to detect an operating stutterwarp. Since the sensor buoys that comprise the majority of the longscan array lack stutterwarp drives, a requirement for GADS, another platform is required to fill the gaps in coverage.

The Cerberus is a small 110-ton vessel. Although armed, it is not intended for combat. These ships deploy GADS sensors as part of a longscan network and act as data collation nodes, gathering information from multiple buoys and combining it to gain a detailed battlespace map of that region of the system. This is then fed back to system defence stations or ships to give a detailed view of the entire system. Since longscan deployments only started in 2298, only a few systems have it and most of those do not have full coverage. Initial deployments were made to cover likely attack vectors from ships coming down the Arm.

The Cerberus operates with a power deficit; it cannot run its weapons while the laser comm is in operation. The four drone controllers are used to interface with the network of buoys and sensor drones it controls.

Crew	Passengers	Hull Points	Signature: 2
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineer, Life Support Tech, Electronics Tech, Specialists x2 Comfort Rating: -1	—	11	Base Reflected: 2 Base Radiated: 2

Running Costs

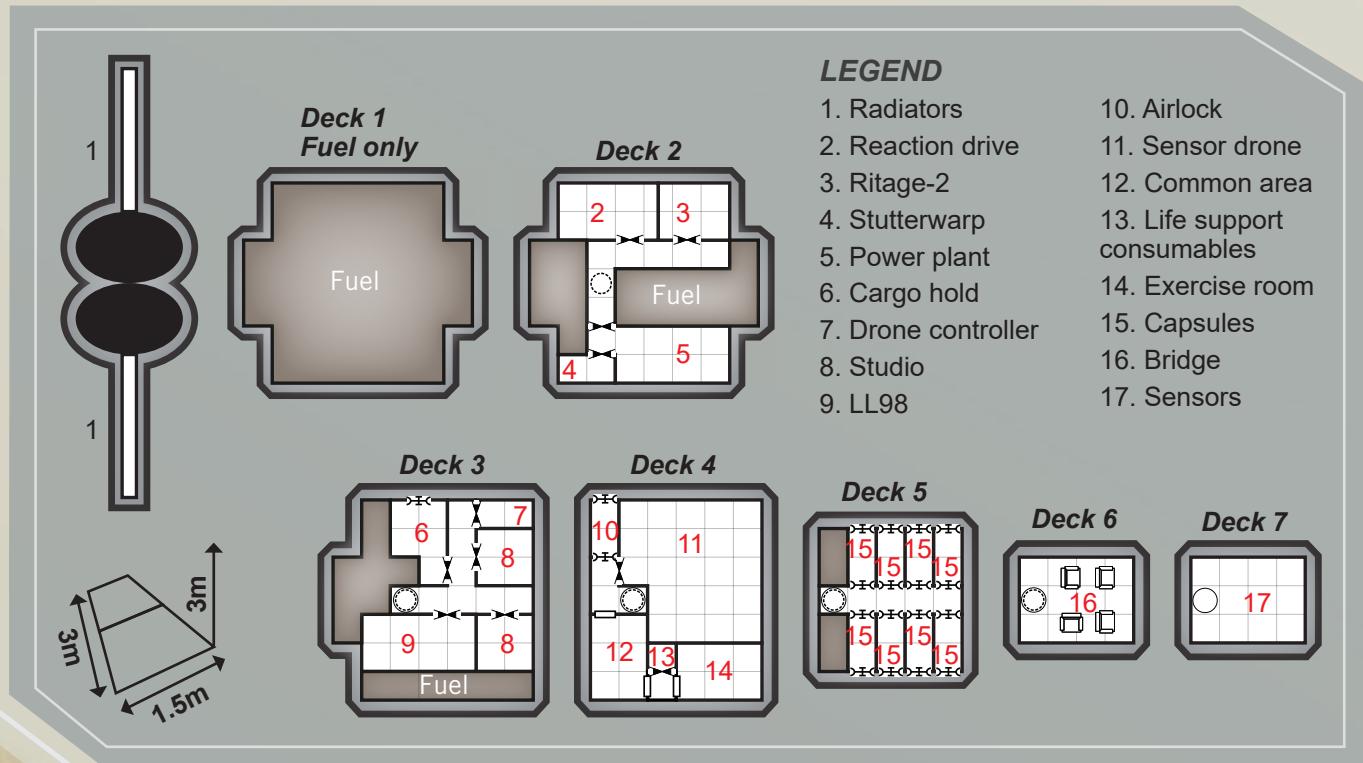
Maintenance Cost: Lv7114/month

Purchase Cost: MLv85.37

Power Requirements	Power
Basic Ship Systems	1.1
Reaction Drive	11
Stutterwarp	5
Sensors	20
Drone Controllers	8
Weapons	15
Laser Comm	10



TL12		Tons	Cost (MLv)
Hull	110-ton Synthetic Spaceframe	—	2.64
Reaction Drive	OMS Thruster	3.3	1.32
Stutterwarp	1.4 ly/day, Tac Speed: 1, System Speed: 0.903 AU per day	1.05	5.27
Power Plant	MHD Turbine (Power 50)	4.17	2.29
Fuel Tanks	OMS Thruster (5 Burns)	16.5	—
	Power Plant (2 weeks)	25	—
Radiators	Conventional, Capacity 50	5	0.25
Bridge	Small, with Neural Link, Encrypted Comms, Laser Comm	5.5	6.825
Computer	Primary: Computer/30fib Secondary: Computer/25	—	20
Sensors	Basic Military, DSS, GADS, Telescope	6.11	11.13
Weapons	LL98 (retractable surface mount), with UTES	4	1.6
Targeting	UTES (+1)	—	—
Ordnance	Combat Drone: Ritage-2	2.2	3.122
Drone Controllers	4	1	2
Systems	Exercise Equipment x3, Studios x2, Common Areas (3 tons), Safety Locker, Simple Fresher	14	1.13
Drones and Remotes	Voir Sensor Drone in berth	11.55	13.895
Airlocks	Standard Airlock	—	—
Accommodations	Zero-G Rack Capsules (for 2) x6	6	1.5
Software	Archive, Battle System/1, Intellect, Manoeuvre, Neural Interface, Stutterwarp Control	—	20.56
Life Support Consumables	28 days for 10 people	0.67	—
Cargo		2.46	—
Total: MLv85.37			



BERGER QUARANTINE CUTTER

NATION: France
FIRST EXAMPLE LAID DOWN: 2293
MANUFACTURER: L'Étage Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 82 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Many
NUMBER IN SERVICE: 100+
LENGTH: 25.77 m
WIDTH: 12.88 m
LAUNCH MASS (FULLY FUELLED): 550.8 tons
POWER PLANT: Darlan Power Systems D40 4 MW MHD Turbine
REACTION DRIVE: L'Étage B60a 0.6 MW OMS Thruster, 600 tons thrust
STUTTERWARP: L'Étage J-3 1 MW Gen II Jerome-effect Stutterwarp

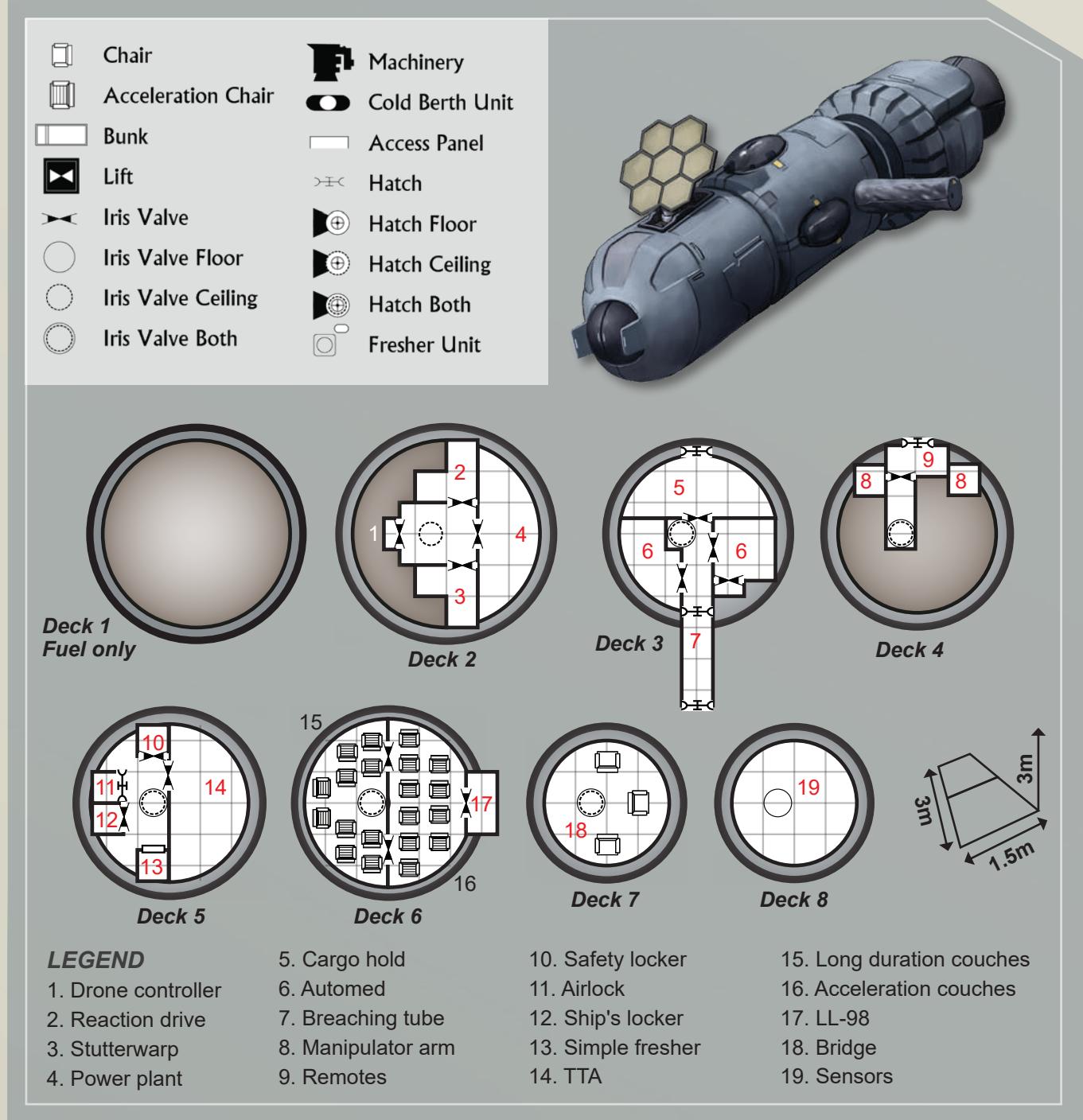
In 2275, officials with Earth's international Orbital Quarantine Command (OQC) issued a set of capabilities that ship contributions to the OQC must

have. This included extensive orbital operations, medium stutterwarp speeds, one LL98 (or equivalent) laser array on a surface mount with TTA, boarding tube, minimum five person zero-G trained boarding and inspection team, basic military sensors, DSS and GADS, and internal capacity for up to 10 prisoners.

Although the brief did not include details about size or configuration, many nations developed a blueprint. It was the L'Étage Berger (Shepherd) that proved to be the most popular in the long run. Like most small craft, it does not have sufficient power to run the OMS thruster and the stutterwarp at the same time.

The Berger is in service with 51 nations and, for many of them, it is the only armed spacecraft they possess and many are on permanent OQC duty. Russia has a similar ship, the Страж (Guardian), equipped with a Silka combat drone.

TL11		Tons	Cost (MLv)
Hull	60-ton Composite Spaceframe	—	1.8
Hull Features	Advanced, Radiation Shield	—	1.5
Armour	4	1.2	0.72
Reaction Drive	OMS Thruster (advanced)	1.62	1.44
Stutterwarp	2.68 ly/day, Tac Speed: 3 System Speed: 1.73 AU/day	1.49	2.98
Power Plant	MHD Turbine (Power 40)	4	1.6
Fuel Tanks	OMS Thruster (10 Burns)	16.2	—
	Power Plant (24 hours)	1.44	—
Radiators	AHDR, Capacity 45	2.25	1.125
Bridge	Flight Deck, Encrypted Comms	3	1.25
Computer	Primary: Computer/20fib Secondary: Computer/10fib	—	3.87
Sensors	Basic Military, DSS, GADS, Telescope	6.15	10.9
Weapons	LL98 (retractable surface mount)	1	1
Targeting	TTA (-1), Fire Control +1	5	0.5
Drone Controller	1	0.25	0.5
Systems	Automeds x2, Safety Locker, Ship's Locker, Simple Fresher	1.25	0.655
	Breaching Tube, Manipulators x2	2.5	2.5
Drones and Remotes	Inspection Remotes x4	1.1	0.31
Airlocks	Standard Airlock	—	—
Accommodations	Acceleration Couches x10, Long Duration Couches x10	7.5	0.8
Software	Fire Control/1, Intellect, Manoeuvre, Stutterwarp Control	—	4.072
Life Support Consumables	7 days for 20 people	0.28	—
Cargo		3.77	—
Total: MLv33.77			



Crew	Passengers	Hull Points	Signature: 2
Pilot, Co-pilot, Sensor Operator, Weapons Officer, Fire Team Lead, Troops x5	10	7	Base Reflected: 2 Base Radiated: 2

Running Costs

Maintenance Cost: Lv2814/month
Purchase Cost: MLv33.77

Power Requirements

Basic Ship Systems	0.6
Reaction Drive	6
Stutterwarp	10
Sensors	10
Drone Controllers	2
Weapons	15

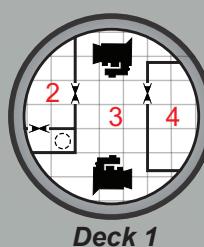
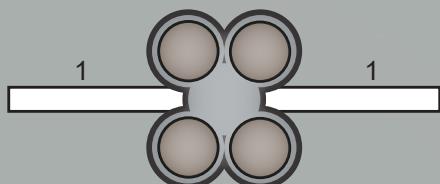
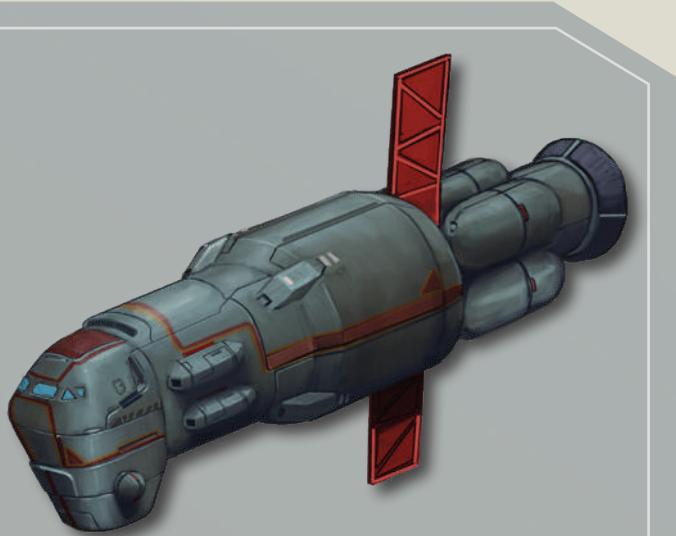
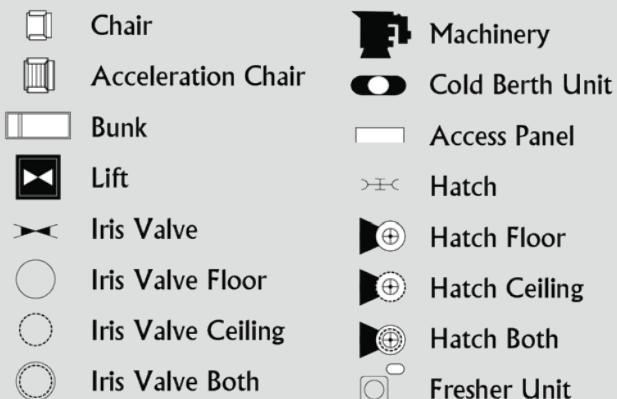
STARWOLF FAST ATTACK BOAT

NATION: United States
FIRST EXAMPLE LAID DOWN: 2292
MANUFACTURER: Hyde Dynamics
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 151 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: United States, Australia
NUMBER IN SERVICE: 6
LENGTH: 34.97 m
WIDTH: 17.49 m
LAUNCH MASS (FULLY FUELLED): 1,143 tons
POWER PLANT: Norton-Thales MRW-160 16 MW
Fission Reactor
REACTION DRIVE: Hyde Dynamics RT-250a 2.5 MW
Nuclear OMS Thruster, 1,500 tons thrust
STUTTERWARP: Trilon System-45 4.5 MW Gen II
Jerome-effect Stutterwarp

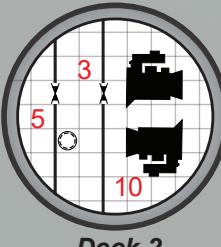
The American Starwolf is unusual amongst American military spacecraft in that it is operated by the Department of the Navy, rather than the American Space Force. This small stealth craft is used primarily for intelligence gathering and, when necessary, sneak attacks. The four SIM-14 and three Grapeshot rounds can be placed by the Starwolf, and make a coordinated strike on a target. Only the SIM-14s run risk of detection but they are fast enough that the Starwolf can fire them last as it departs. Due to the small size and cramped conditions, gunnery and remote operations roles are filled by non-dedicated personnel.

Due to the classified nature of its missions, the Department of the Navy was given ownership and operation of the Starwolf under their Space Operations Branch. They use their own bases and tenders, and do not interact with the Space Force. There is some friction between the two services.

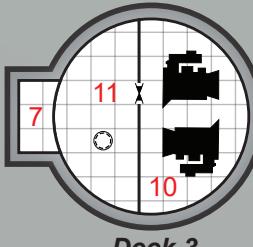
TL12		Tons	Cost (MLv)
Hull	150-ton Synthetic Spaceframe	—	3.6
Hull Features	Radiation Shield, Stealth, Advanced	—	18.75
Armour	2	2.4	0.48
Reaction Drive	Nuclear OMS Thruster (advanced)	4.05	9
Stutterwarp	3.78 ly/day, Tac Speed: 4 System Speed: 2.44 AU/day	3.16	15.81
Power Plant	Fission Reactor (Power 160)	20	8
Emergency Power	Power 1.5 (24 hours)	0.036	0.036
Fuel Tanks	OMS Thruster (7 Burns)	28.35	—
Radiators	AHDR, Capacity 160	8	4
Bridge	Small, with Neural Link, Encrypted Comms	5	2.125
Heat Sinks	160 Capacity for 15 hours	28	14
Computer	Primary: Computer/25fib Secondary: Computer/20fib	—	5.25
Sensors	Advanced Military, Basic Survey, DSS, GADS	8.32	5.68
Weapons	EA1000 (retractable surface mount) with UTES	4	3.6
Targeting	UTES (+1), Fire Control +1	—	—
Ordnance	Combat Drones: SIM-14 x4, Submunitions: Big Clip	13.76	14.3836
Drone Controllers	1	0.25	0.5
Systems	Automed, Common Area (3 tons), Exercise Equipment for 3, Safety Lockers x2, Ship's Locker, Simple Fresher Sling (30 tons)	8 3	1.755 0.45
Airlocks	Standard Airlocks x2	—	—
Accommodations	Small Stateroom, Rack Capsules for 12	8	1.6
Software	Archive, Intellect, Manoeuvre, Fire Control/1, Stutterwarp Control	—	4.128
Life Support Consumables	54 days for 13 people	1.4	—
Cargo		2.92	—
Total: MLv111.63			



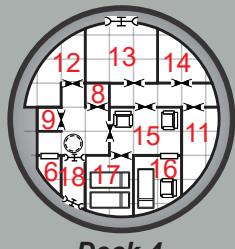
Deck 1



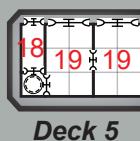
Deck 2



Deck 3



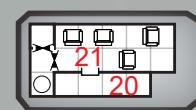
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Deck 5



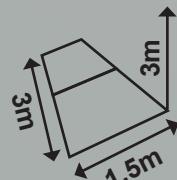
Deck 6



Deck 7

LEGEND

- | | | |
|-------------------|------------------------------|--------------|
| 1. Radiators | 14. Life support consumables | 18. Airlock |
| 2. Stutterwarp | 15. Common area | 19. Capsules |
| 3. Power plant | 16. Small stateroom | 20. Sensors |
| 4. Reaction drive | 17. Automated | 21. Bridge |
| 5. EA1000 | | |
| 6. Simple fresher | | |
| 7. Sling | | |
| 8. Ship's locker | | |
| 9. Safety locker | | |
| 10. Heat sinks | | |
| 11. Drones | | |
| 12. Exercise room | | |
| 13. Cargo hold | | |



Crew	Passengers	Hull Points	Signature: 3
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineers x4, Life Support Tech, Electronics Tech Comfort Rating: +0	10	7	Base Reflected: -2 Base Radiated: 3 Radiated Signature 0 when Heat Sinks engaged

Running Costs

Maintenance Cost: Lv9303/month
Purchase Cost: MLv111.63

Power Requirements

Basic Ship Systems	1.5
Reaction Drive	15
Stutterwarp	25
Sensors	16
Drone Controllers	2
Weapons	25

EXETER-CLASS PATROL VESSEL

NATION: United Kingdom

FIRST EXAMPLE LAID DOWN: 2287

MANUFACTURER: British Exospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 303 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United Kingdom, Wellon, Brazil

NUMBER IN SERVICE: 18

LENGTH: 33 m

WIDTH: 11 m

WINGSPAN: 13 m

TAKE-OFF MASS (FULLY FUELLED): 2,730 tons

POWER PLANT: Royce Phoenix 11.5 MW MHD Turbine

REACTION DRIVE: British ExoSpace R30 3 MW Plasma-Augmented Scramjet with Thrust Vectoring, 9,000 tons thrust

STUTTERWARP: British ExoSpace J400 4 MW Gen II Jerome-effect Stutterwarp

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,200 km/h

TAKE-OFF ROLL: 2,400 m

LANDING ROLL, UNPOWERED: 4,050 m

LANDING ROLL, POWERED: 1,350 m

MAXIMUM AIRSPEED: Transonic

CRUISING AIRSPEED: Subsonic

ENDURANCE: 1 Hour per Burn

As originally conceived, the Exeter was to be a system defence boat, able to operate from less-developed worlds in more remote systems. Its interface ability allowed it to operate without requiring orbital

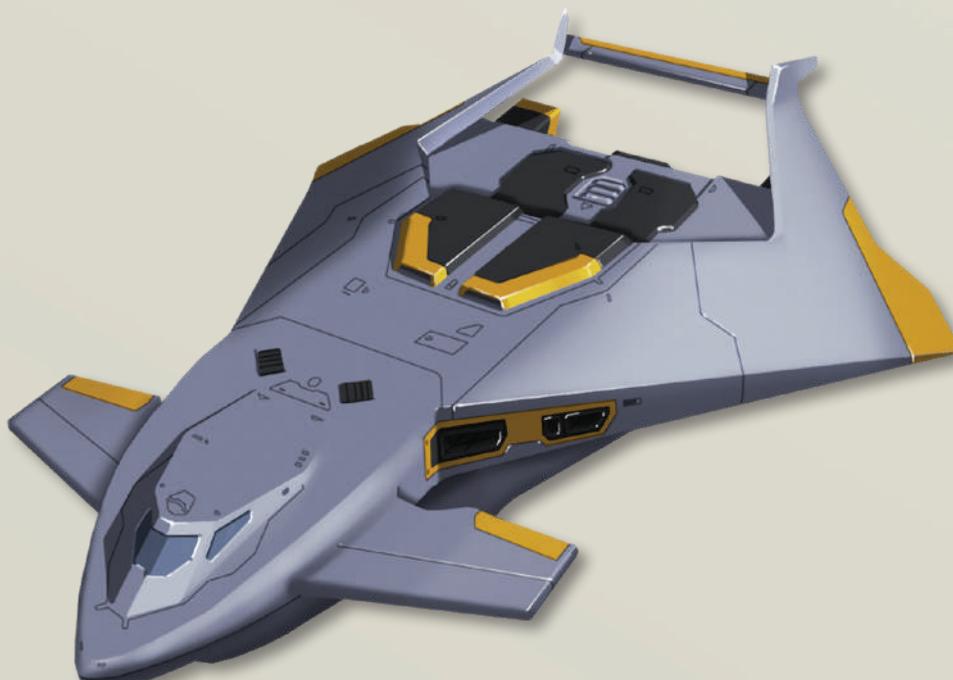
infrastructure. It turned out to be overbuilt for that role, with many colonies opting to go with the more capable, and less expensive, Myrmidon. Despite the Myrmidon not being interface-capable, it was still cheaper to operate in the long run.

The Exeter is in place with some British colonial militia forces but the real market for this ship is in sales to private contractors. The flexible nature and small crew size make it ideal for small militias and private operators.

For armament, the Exeter has two Hyde Dynamics EA122 laser arrays on retractable mounts, tied into a targeting computer, some armouring of the hull and sensors to detect enemies at reasonable distance. It is equipped with a magnetic sling to carry a single missile, which must be protected by a shroud for launching and re-entry. The sling can also be used to mount a missile pack but the Exeter cannot undertake atmospheric operations of any kind with the pack in place.

The ship has a retractable spin habitat for the comfort of the crew. When retracted, the ship is streamlined and has thrusters and fuel for atmospheric operations. Extended, the pair of habitats has a spin radius of 15 metres, giving a felt gravity of 0.15 G at three RPM.

The Exeter has an additional Burn of fuel for orbital operations and to increase its operational world Size range.



TL11		Tons	Cost (MLv)
Hull	300-ton Composite Lifting Body	—	10.2
Hull Features	Heat Shield, Advanced, VTOL, Frontier Operations	3	6.75
Armour	2	3	1.8
Reaction Drive	Thruster (air-breathing)	8	7.88
Stutterwarp	2.29 ly/day, Tac Speed: 2 System Speed: 1.48 AU/day	2.98	5.96
Power Plant	MHD Turbine (Power 115)	11.5	4.6
Emergency Power	Power 3 (24 hours)	0.36	0.36
Fuel Tanks	Thruster (9 Burns)	67.5	—
	Power Plant (2 weeks)	57.5	—
Radiators	AHDR, Capacity 120	6	3
Bridge	Small, Encrypted Comms	10	3
Computer	Primary: Computer/15fib Secondary: Computer/10fib	—	1.62
Sensors	Basic Military, DSS, GADS, Telescope	7.39	6.88
Weapons	EA122 x2 (Retractable) with UTES	8	4.4
Targeting	UTES (+1), Fire Control (+1)	—	—
Drone Controllers	1	0.25	0.5
Systems	Under Spin: Armoury, Automeds x2, Exercise Equipment x8, Safety Locker, Ship's Locker, Simple Fresher Zero-G: Simple Fresher, Workshop Sling (5 tons)	19.5 0.5	7.16 0.075
Sub-Craft	Range Truck in Berth	5.5	0.565
Airlocks	Standard Airlocks x3	—	—
Accommodations	Under Spin: Small Staterooms x35, Rack Capsules (capacity 6)	70	3.5
Artificial Gravity	Type: Extendable Spin Capsules (104.44 tons Under Spin) Radius: 15 m, 3 RPM, Gravity: 0.15 G, Spin Up/Down: 9 minutes	12.48	12.48
Software	Archive, Intellect, Manoeuvre, Fire Control/1, Stutterwarp Control	—	3.916
Life Support Consumables	28 days for 35 people	1.96	—
Cargo		2.12	—
Total: MLv79.43			

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x3, Life Support Techs x3, Electronics Techs x3, Gunners x4, Drone Pilots x4, Troops x6 Comfort Rating: +0	—	36	Base Reflected: 2 Base Radiated: 3 Spin Hab Retracted: -1

Running Costs

Maintenance Cost: Lv6619/month
Purchase Cost: MLv79.43

Power Requirements

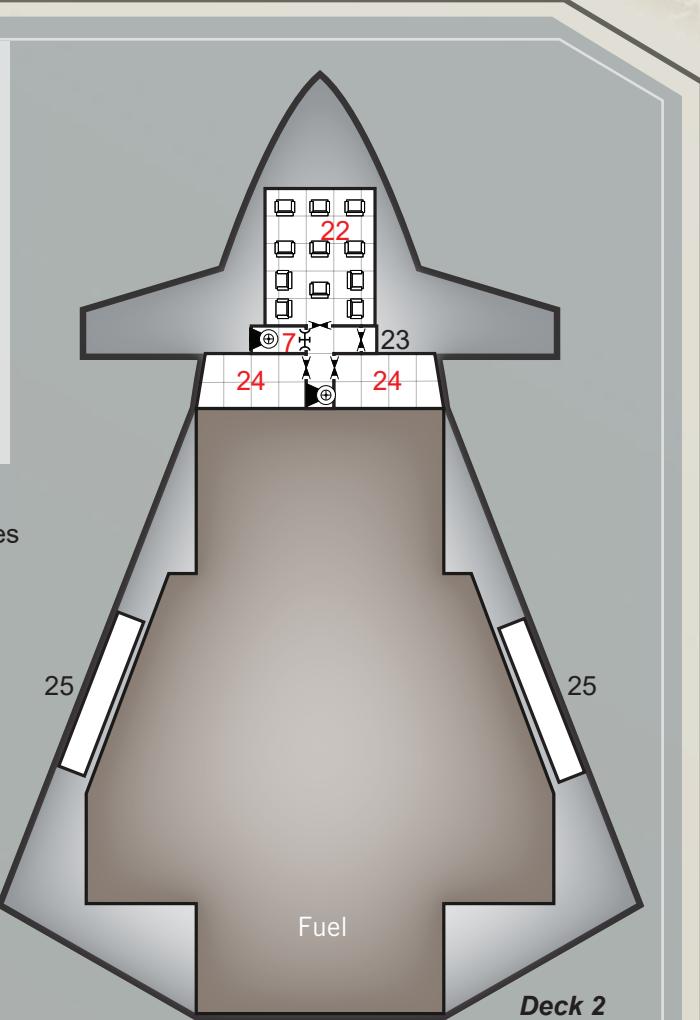
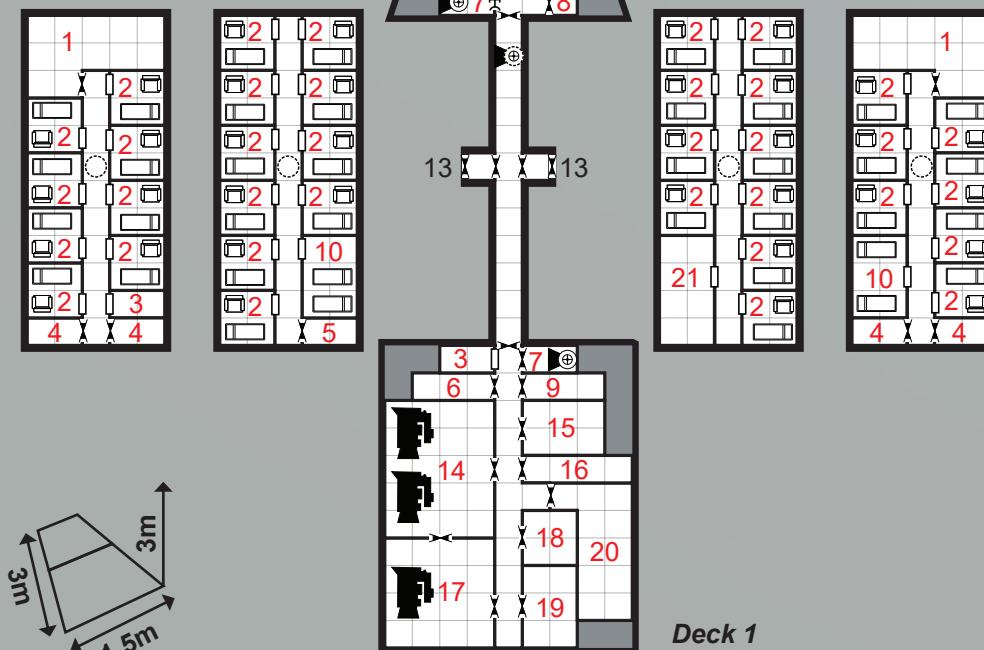
Power Requirements	Power
Basic Ship Systems	3
Reaction Drive	30
Stutterwarp	40
Sensors	10
Drone Controllers	2
Weapons	50

EXETER CLASS PATROL VESSEL



- LEGEND**
- Spin capsules
 - Small stateroom
 - Simple fresher
 - Capsules
 - Safety locker
 - Ship's locker
 - Airlock
 - Emergency power
 - Armoury
 - Automed
 - Sensors
 - Sling
 - Access to spin habitat 1 and 2
 - Power plant

- Workshop
- Life support consumables
- Reaction drive
- Cargo hold
- Stutterwarp
- Berth
- Exercise room
- Bridge
- Drone controller
- EA122
- Radiators



SACHSEN-CLASS FRIGATE**NATION:** Germany**FIRST EXAMPLE LAID DOWN:** 2246**MANUFACTURER:** Rheinmetall Aerospace Division**PRODUCTION STATUS:** Out of Production**CONSTRUCTION TIME:** 187 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Germany, Freihafen, Tanstaaf!**NUMBER IN SERVICE:** 12**LENGTH:** 48.5 m**WIDTH:** 24.25 m**LAUNCH MASS (FULLY FUELLED):** 3,096 tons**POWER PLANT:** Rheinmetall TM-170 MW MHD Turbine**REACTION DRIVE:** Koönig Aerospace MDR-40 4 MW

OMS Thruster, 4,000 tons thrust

STUTTERWARP: L'Étage B Series JB-45 4.5 MW Gen II

Jerome-effect Stutterwarp

Frigates are usually small ships that form part of a battlegroup's screening forces. The classification of the *Sachsen* as a frigate goes back to an older definition, however, that of a ship capable of robust independent operations rather than a strict reference to size or offensive capabilities. The 400-ton *Sachsen* fits this description aptly. It is a typical Hanoverian design, solid and effective, if slow.

The *Sachsen* is more gunship than drone carrier, although the bloc upgrades of 2285 during group overhauls saw the addition of a small SR-9 drone bay in place of the heavy lander. A smaller lander was installed instead and troop complement reduced. Like all MHD-powered ships, the *Sachsen* is restricted by fuel supply. It can undertake limited frontier refuelling, thanks to its solar array and fuel processor, but this is more for emergencies. The solar array can handle the ship's life support and sensors, along with the fuel processor, so this makes it ideal as a picquet ship.

The *Sachsen* also has a large amount of reaction mass for its thrusters, making it more suitable than most warships for orbital operations. This also made it more effective in the defence of Aurore than its small size would indicate, given how far the planet is beneath Tithonus's Wall.

It was superseded by more modern designs after the War of German Reunification and current examples are found with colonial defence forces.

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x3, Small Craft Tech, Life Support Techs x3, Electronics Techs x3, Gunners x8, Drone Pilots x4, Security x2, Ship's Troops x8, Small Craft/Fighter Pilots x2, Medics x2, Steward Comfort Rating: -1	—	40	Base Reflected: 2 Base Radiated: 3



SACHSEN-CLASS FRIGATE

TL11		Tons	Cost (MLv)
Hull	400-ton Synthetic Spaceframe	—	9.6
Hull Features	Radiation Shield	—	2
Armour	4	12.8	3.2
Reaction Drive	OMS Thruster (advanced)	10.8	9.6
Stutterwarp	1.98 ly/day, Tac Speed: 2 System Speed: 1.23 AU/day	3.35	6.71
Power Plant	MHD Turbine (Power 170), Solar Panels (Power 60)	24.5	9.6
Emergency Power	Power 4 (24 hours)	0.48	0.48
Fuel Tanks	OMS Thruster (9 Burns)	97.2	—
	Power Plant (2 weeks)	85	—
Fuel Processing	10 tons per day	1	2
Radiators	AHDR, Capacity 170	8.5	4.25
Bridge	Small, Encrypted Comms	10	3
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	1.62
Sensors	Basic Military, Basic Survey, DSS, GADS	7.34	6.77
Weapons	LL98 x4 (retractable), in 2 Batteries of 2	12	4
Targeting	TTA (-1) x2, Fire Control (+1)	10	1
Ordnance	Combat Drones: SR-9 x4 Submunitions: LHH-637 x2	11.56	13.90
Drone Controllers	2	0.5	1
Systems	Armoury, Automeds x4, Exercise Equipment for 10, Library, Safety Lockers x2, Ship's Locker, Simple Freshers x4, Freshers x4, Common Areas (10 tons)	29.5	5.76
Drones and Remotes	Inspection Remotes x4, Repair Remotes x5	1.65	1.37
Sub-Craft	Turmfalke Spaceplane in Berth	22	6.32
Airlocks	Standard Airlocks x4	—	—
Accommodations	Small Staterooms x8, Bunks for 51, Stateroom	36	1.7
Life Support Consumables	54 days for 60 people	6.48	—
Software	Archive, Intellect, Manoeuvre, Fire Control/1, Stutterwarp Control	—	3.76
Cargo		0.34	—
Total: MLv88.96			

Running Costs

Maintenance Cost: Lv7771/month
Purchase Cost: MLv93.25

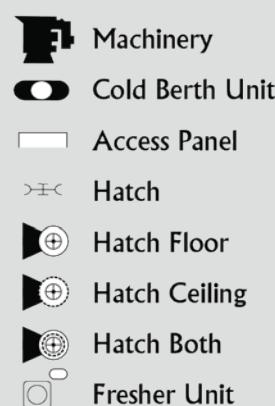
Power Requirements

Power

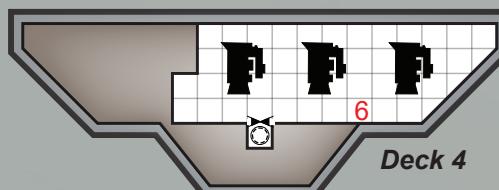
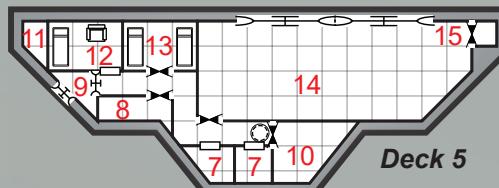
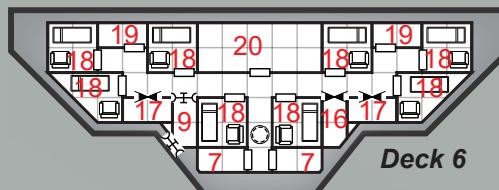
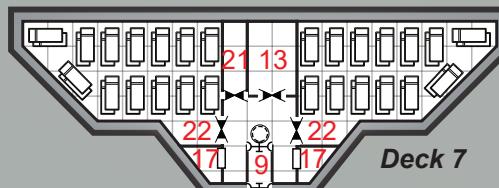
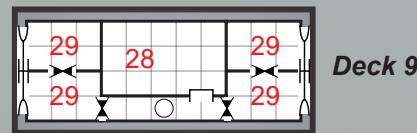
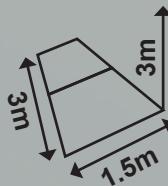
Basic Ship Systems	4
Reaction Drive	40
Stutterwarp	45
Fuel Processor	50
Sensors	11
Drone Controllers	4
Weapons	50

**LEGEND**

- | | |
|-----------------------------|---------------------|
| 1. Emergency power | 11. Fuel processor |
| 2. Radiators | 12. Stateroom |
| 3. Reaction drive | 13. Automed |
| 4. Life support consumables | 14. Craft berth |
| 5. Stutterwarp | 15. Cargo space |
| 6. Power plant | 16. Ship's locker |
| 7. Fresher | 17. Safety locker |
| 8. Armoury | 18. Small stateroom |
| 9. Airlock | 19. Simple fresher |
| 10. Exercise room | 20. Common area |
| | 21. Library |



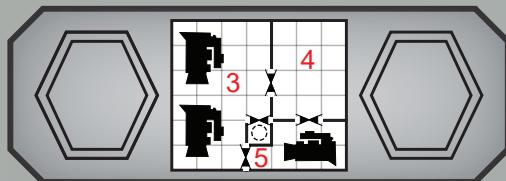
22. Bunks
23. TTA
24. Combat drones
25. Remotes
26. Drone controller
27. Bridge
28. Sensors
29. LL98



Deck 3



Deck 2



Deck 1

MYRMIDON SYSTEM DEFENCE BOAT

NATION: Freihafen

FIRST EXAMPLE LAID DOWN: 2292

MANUFACTURER: Koenig Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 109 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Freihafen, Heidelsheimat, Independent

NUMBER IN SERVICE: 12

LENGTH: 38.49 m

WIDTH: 19.25 m

LAUNCH MASS (FULLY FUELLED): 2,100 tons

POWER PLANT: Koenig AMS 75 7.5 MW MHD Turbine

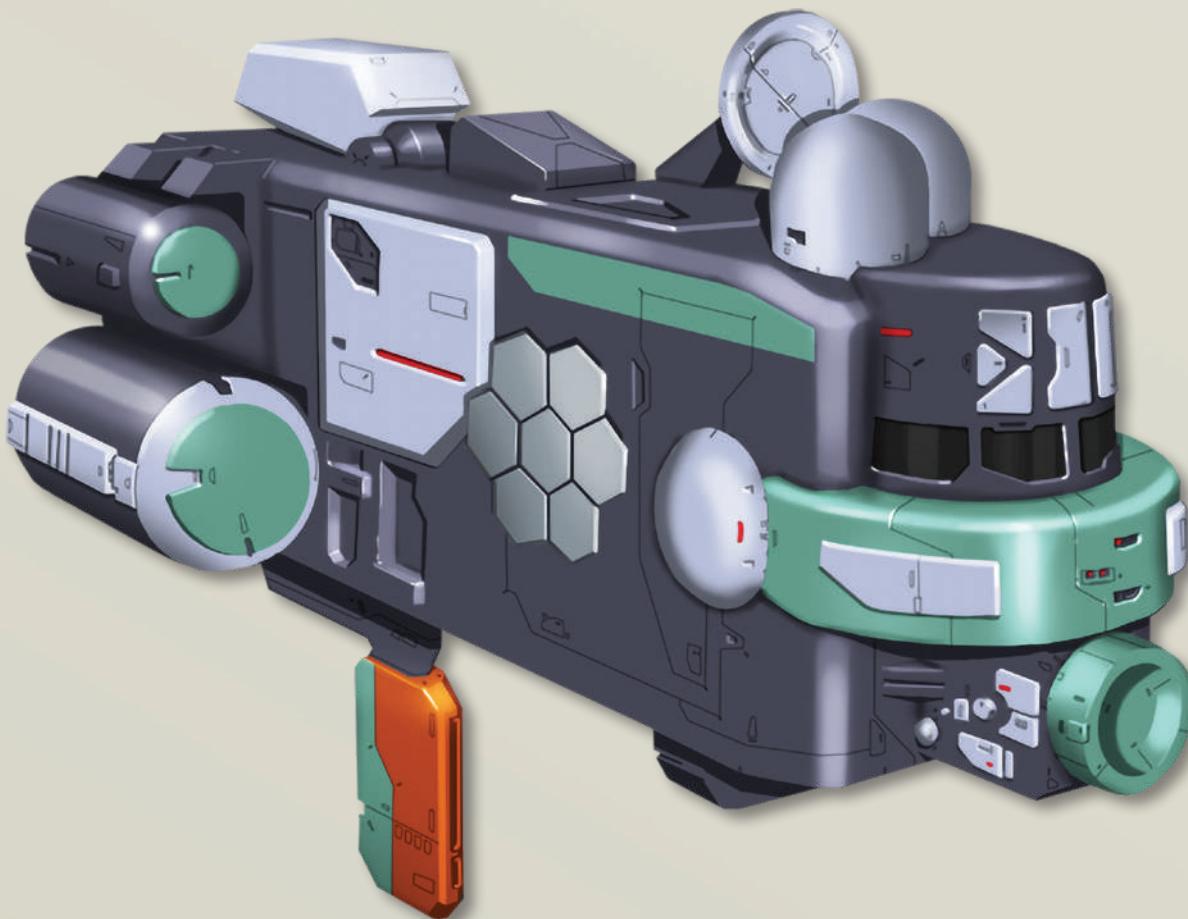
REACTION DRIVE: Koenig Peregrine-20n OMS Thruster, 2,000 tons thrust

STUTTERWARP: BRW AG Class S40n 4 MW Gen II Jerome-effect Stutterwarp

The Myrmidon is a small warship designed to be built relatively cheaply by both military and civilian yards across human space. Koenig Aerospace of Freihafen first produced the vessel in 2294, in response to Freihafen's need for an indigenous small warship. The ship has been marketed heavily to other German colony worlds across the French Arm and some examples can even be seen on Heidelsheimat which maintains four of these vessels, largely to balance out the Texan forces in the system.

The Myrmidon is not designed as a front-line combatant. It capably fills the system defence role, however, especially when equipped with a combat drone pack.

For weaponry, the Myrmidon mounts two license-built LL-98 beam laser arrays, with UTES. A light Grapeshot dispenser and a Big Clip complete the integral armament, while a magnetic sling able to carry a SIM-14 missile pack provides for long-range firepower.



TL11		Tons	Cost (MLv)
Hull	200-ton Aligned Crystal Steel Spaceframe	—	4
Hull Features	Radiation Shield	10	1
Armour	4	10	0.8
Reaction Drive	OMS Thruster (advanced)	5.4	4.8
Stutterwarp	2.08 ly/day, Tac Speed: 2 System Speed: 1.34 AU/day	2.74	5.48
Power Plant	MHD Turbine (Power 75)	7.5	3
Emergency Power	Power 2 (24 hours)	0.24	0.24
Fuel Tanks	OMS Thruster (8 Burns)	43.2	—
	Power Plant (2 weeks)	37.5	—
Radiators	Conventional, Capacity 75	7.5	0.375
Bridge	Small, with Neural Link, Encrypted Comms	5	2.5
Computer	Primary: Computer/15 Secondary: Computer/10	—	1.08
Sensors	Basic Military, DSS, GADS, Telescope	6.27	11.15
Weapons	LL98 x2 with UTES	6	2.7
Targeting	UTES (+1), Fire Control +1	—	—
Ordnance	Submunitions: Grape-Shot	5.4	2
Drone Controllers	1	0.25	0.5
Systems	Automed, Exercise Equipment x7, Safety Lockers x2, Ship's Locker, Simple Fresher	8	2.205
	Sling (30 tons), Breaching Tube	7	3.45
Airlocks	Standard Airlocks x2	—	—
Accommodations	Small Staterooms x21	42	2.1
Software	Archive, Intellect, Manoeuvre, Fire Control/1, Stutterwarp Control	—	3.832
Life Support	28 days for 21 people	1.18	—
Consumables			
Cargo		1.76	—
Total: MLv46.4			

Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Life Support Techs x2, Electronics Techs x2 Comfort Rating: -1	—	20	Base Reflected: 2 Base Radiated: 2

Running Costs

Maintenance Cost: Lv3867/month
Purchase Cost: MLv46.4

Power Requirements

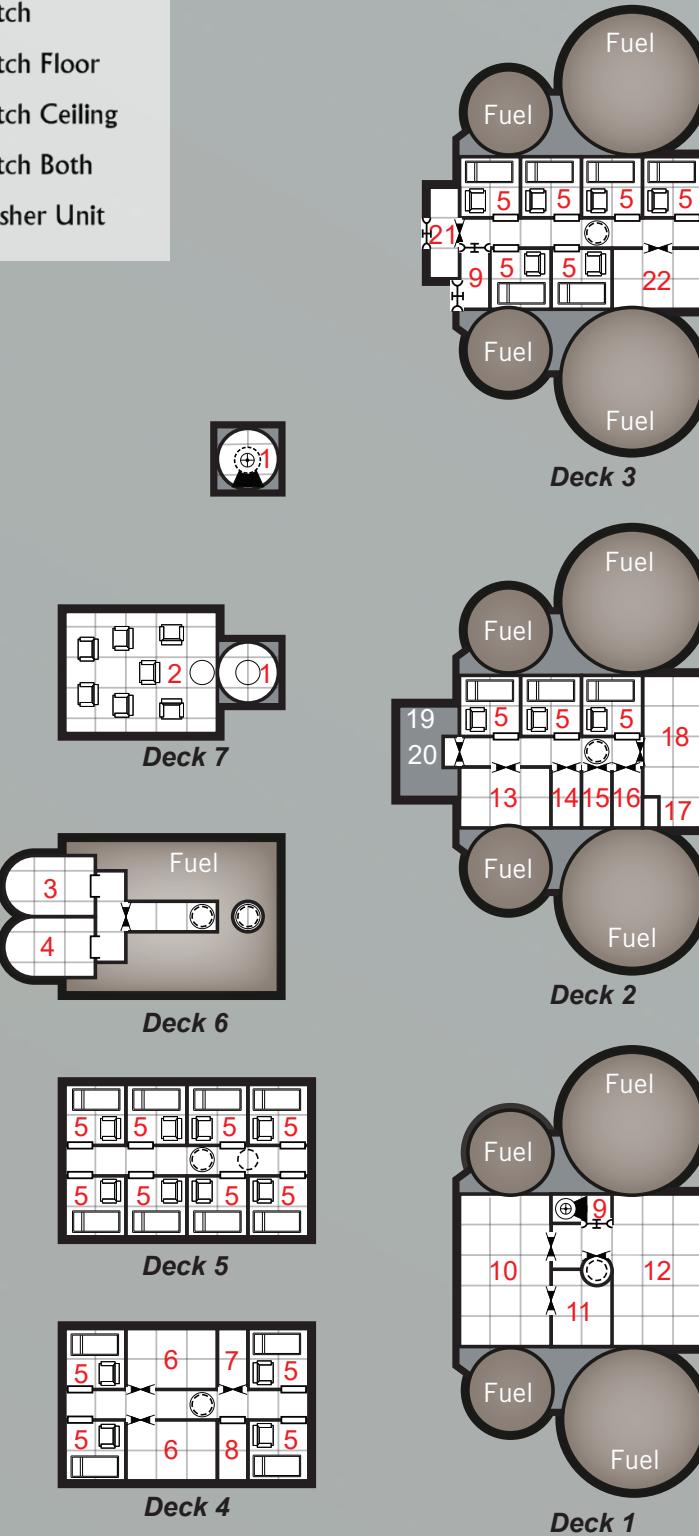
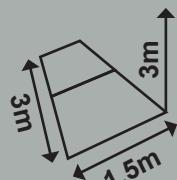
Basic Ship Systems	2
Reaction Drive	20
Stutterwarp	30
Sensors	10
Drone Controllers	2
Weapons	30

MYRMIDON SYSTEM DEFENCE BOAT

	Chair		Machinery
	Acceleration Chair		Cold Berth Unit
	Bunk		Access Panel
	Lift		Hatch
	Iris Valve		Hatch Floor
	Iris Valve Floor		Hatch Ceiling
	Iris Valve Ceiling		Hatch Both
	Iris Valve Both		Fresher Unit

LEGEND

1. Breaching tube
2. Bridge
- 3&4. Sensors
5. Small staterooms
6. LL98
7. Safety locker
8. Simple fresher
9. Airlock
10. Power plant
11. Stutterwarp
12. Reaction drive
13. Automed
14. Safety locker
15. Ship's locker
16. Life support consumables
17. Drone controller
18. Remotes
19. Sling
20. Emergency power
21. Cargo space
22. Exercise room



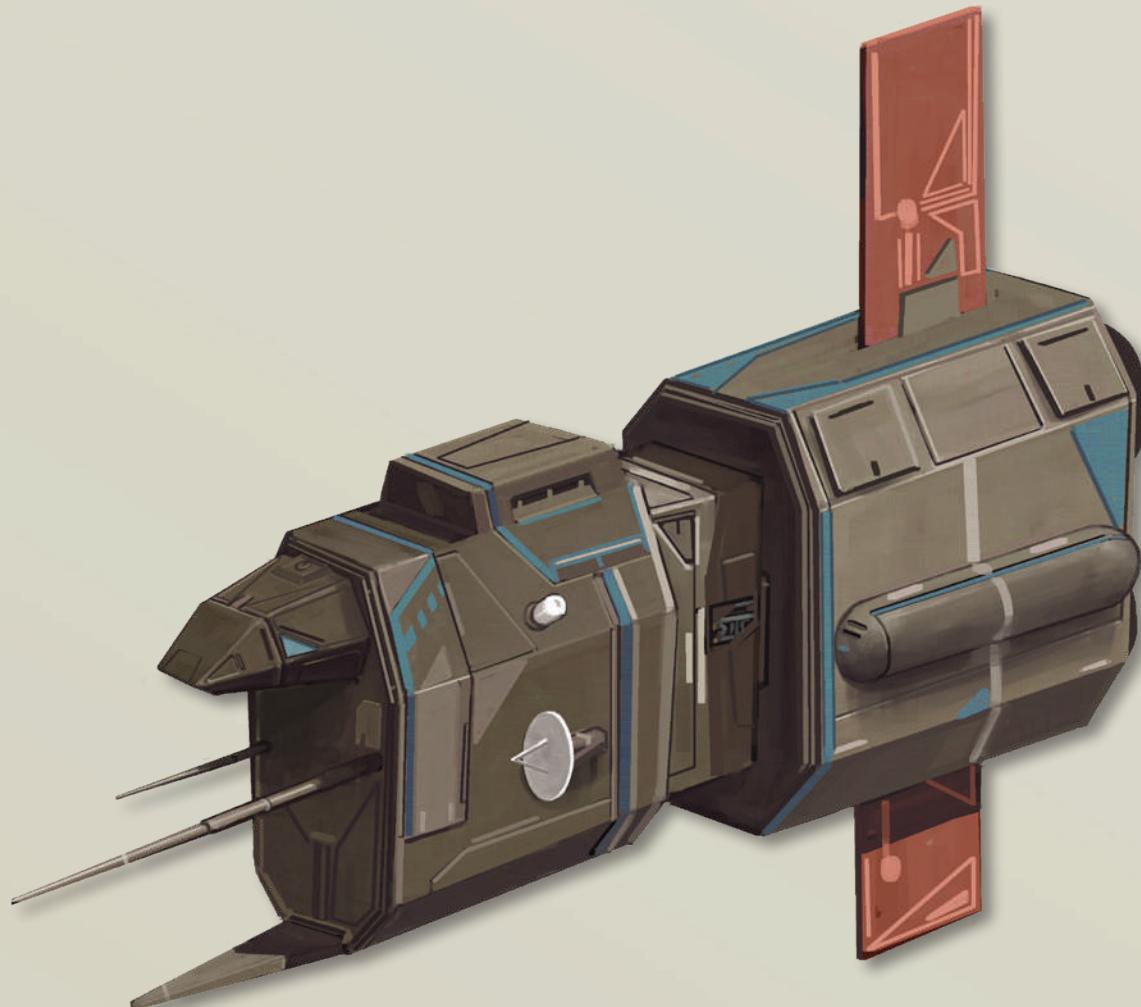
TUNG'HU LIGHT PATROL CRAFT**NATION:** Manchuria**FIRST EXAMPLE LAID DOWN:** 2244**MANUFACTURER:** Manchurian Aerospace Science and Industry Corporation (MASIC)**PRODUCTION STATUS:** In Production**CONSTRUCTION TIME:** 213 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Manchuria**NUMBER IN SERVICE:** 14 (7 lost)**LENGTH:** 44.06 m**WIDTH:** 22.03 m**LAUNCH MASS (FULLY FUELLED):** 2,700 tons**POWER PLANT:** StarCity 9.5 MW MHD Turbine**REACTION DRIVE:** MASIC VK-300c 3 MW OMS Thruster, 3,000 tons thrust**STUTTERWARP:** MASIC K-40 4 MW Gen II Jerome-effect Stutterwarp

The Tung'hu reflects pre-Central Asian War Manchurian design philosophy, carrying a substantial missile armament and possessing enhanced stealth

characteristics. While originally employed against raiders and pirates on the Manchurian Arm, it is most famous, or perhaps infamous, as a commerce raider on the French Arm during the Central Asian War. The actual shipping destroyed by Tung'hu raiders was minimal. The fear of them, fear that kept ships docked or grounded, was the cause of most of the economic damage suffered on the French Arm during the war.

The unstreamlined Tung'hu is small, at only 300 tons but carries a large load of reaction mass, allowing it to undertake orbital operations for an extended period of time. The compact MHD turbine does not provide enough power for all systems but there is never a need to run the thruster at the same time as the stutterwarp, so output is considered satisfactory. The Tung'hu carries enough fuel for a month of cruising time, essential when far from home. In support of this, the frigate carries two months' worth of supplies for the crew.

Armament is light, with only two moderate-output laser arrays and an internal bay for Fantan missiles.

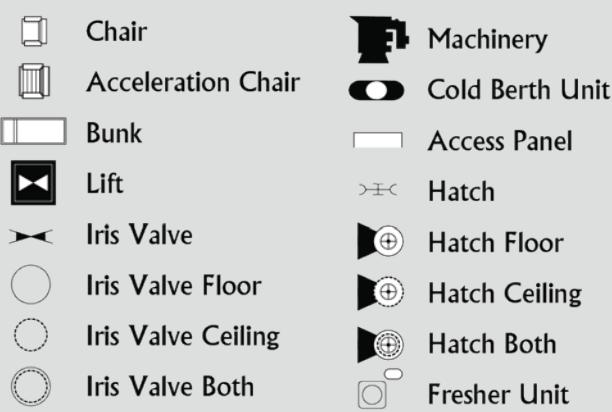


TUNG'HU LIGHT PATROL CRAFT

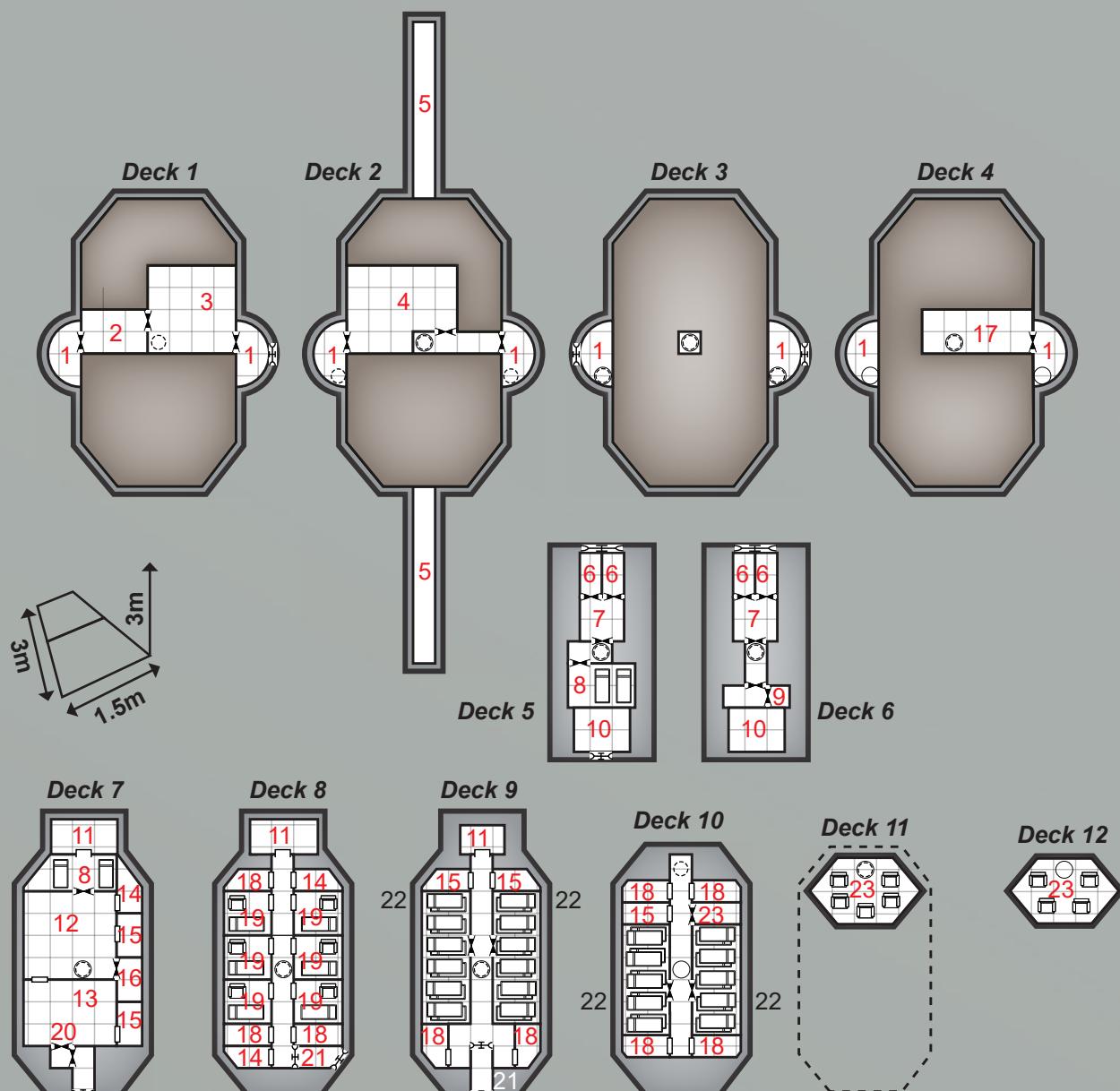
TL11		Tons	Cost (MLv)
Hull	300-ton Composite Spaceframe	—	9
Hull Features	Radiation Shield, Stealth	—	31.5
Reaction Drive	OMS Thruster (advanced)	8.1	7.2
Stutterwarp	2.08 ly/day, Tac Speed: 2 System Speed: 1.34 AU/day	3.35	6.71
Power Plant	MHD Turbine (Power 95)	9.5	3.8
Emergency Power	Power 3 (24 hours)	0.36	0.36
Fuel Tanks	OMS Thruster (6 Burns)	48.6	—
	Power Plant (4 weeks)	95	—
Radiators	Conventional, Capacity 95	9.5	0.475
Bridge	Small, Encrypted Comms	10	2.5
Computer	Primary: Computer/15fib Secondary: Computer/10fib	—	1.62
Sensors	Advanced Military, DSS, GADS, Telescope	7.34	9.27
Weapons	LL98 x2 (in surface mount), in 2 Batteries	4	1.6
Targeting	Light TTA (+0) x2, Fire Control (+1)	4.5	0.53
Ordnance	Combat Drones: Fan Tans x8	14.08	19.74
Drone Controllers	4	1	2
Systems	Automeds x2, Common Areas (16 tons), Exercise Equipment x12, Galleys x8, Safety Lockers x2, Ship's Locker, Simple Freshers x4, Freshers x4 Sling (50 tons)	39	5.76
Airlocks	Standard Airlocks x3	0	0
Accommodations	Small Staterooms x6, Bunks for 42	26	0.95
Software	Archive, Intellect, Manoeuvre, Fire Control/1, Stutterwarp Control	—	3.832
Life Support Consumables	56 days for 48 people	5.38	—
Cargo		0.8	—
Total: MLv97.62			

Crew	Passengers	Hull Points	Signature: 2
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x3, Life Support Techs x3, Electronics Techs x3, Gunners x4, Drone Pilots x8, Drone Technician, Security, Medic, Steward Comfort Rating: -2	—	36	Base Reflected: 2 Base Radiated: 2

Running Costs	Power Requirements	Power
Maintenance Cost: Lv8135/month	Basic Ship Systems	3
Purchase Cost: MLv97.62	Reaction Drive	30
	Stutterwarp	45
	Sensors	15
	Drone Controllers	8
	Weapons	25

**LEGEND**

1. Drones
2. Stutterwarp
3. Reaction drive
4. Power plant
5. Radiators
6. LL98
7. TTA
8. Automated
9. Emergency power
10. Sling
11. Sensors
12. Common area
13. Exercise room
14. Fresher
15. Simple fresher
16. Ship's locker
17. Life support consumables
18. Galley
19. Small stateroom
20. Cargo
21. Airlock
22. Bunks
23. Bridge



LARGE SHIPS

Large ships are the backbone of any space military organisation. These are capital ships and primary combatants, ranging in size from 600 tons up to 5,000 tons. No large ship has interface capability; most would be unable to support their own weight in gravity.

SURCOUF DETERRENCE MISSILE BOAT

NATION: France

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Giscard Aerospace Division

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 998 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 8

LENGTH: 61.11 m

WIDTH: 30.55 m

LAUNCH MASS (FULLY FUELLED): 7,200 tons

POWER PLANT: Darlan J 320 32 MW Fusion Reactor

REACTION DRIVE: L'Étage BN80k 8 MW Nuclear OMS Thruster, 8,000 tons thrust

STUTTERWARP: Giscard D900 20 MW Gen II Jerome-effect Stutterwarp

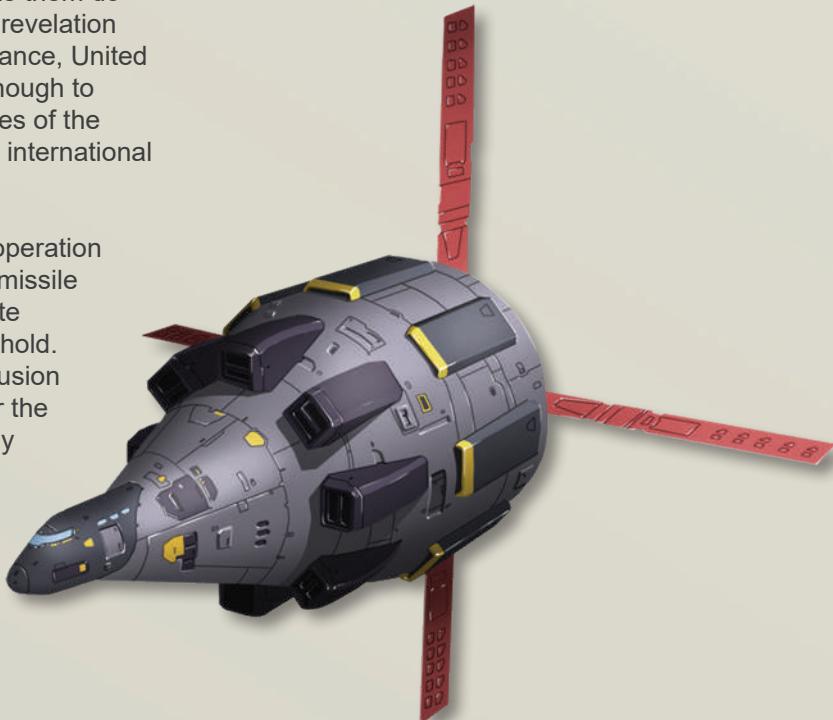
The very existence of these ships only came to light in the past five years. The nations that operate them do so in conditions of utmost secrecy and the revelation that at least four nations (United States, France, United Kingdom and Manchuria) had them was enough to call an emergency meeting of the signatories of the Melbourne Accords, the closest thing to an international forum currently available.

While the Melbourne Accords prohibit the operation of weapons platforms, particularly ballistic missile platforms, in Earth orbit, these ships operate beyond the limits of a solar system's Threshold. The emergency session came to the conclusion that these missile carriers were legal under the letter of the Accords, although they certainly

violated the spirit of the agreement. All nations agreed to limit their missile carriers to what they currently had; France with eight, the United States and the United Kingdom each with six and Manchuria with 10. Other nations agreed, reluctantly in some cases, to cease any further development of these strike platforms.

There is little public information available on these carriers. France constructed the first of the Surcouf class after the revolution on Elysia resulted in the colony's independence and there is some evidence that it was French officials that first leaked information of their existence; they do not serve as a deterrent unless their intended targets are aware of them. These ships are likely located in the depths of space near colonised systems, watching and alert for rebellion.

Even today, there are public protests against the existence of the ships. However, as hostilities with the Kaefers increase in scale and tempo, these vessels may well find themselves moving to the end of the French Arm.



TL12		Tons	Cost (MLv)
Hull	800-ton Composite Spaceframe	—	24
Hull Features	Radiation Shield, Advanced, Stealth	—	100
Reaction Drive	Nuclear OMS Thruster (advanced)	21.6	48
Stutterwarp	3.37 ly/day, Tac Speed: 3, System Speed: 2.17 AU per day	6.83	34.16
Power Plant	Fusion Reactor (Power 320)	21.33	25.6
Emergency Power	Power 8 (24 hours)	0.192	0.192
Fuel Tanks	Nuclear OMS Thruster (6 Burns)	43.2	—
Radiators	AHDR, Capacity 320	16	8
Heat Sinks	Capacity 320 for 24 hours	153.6	76.8
Bridge	Standard, with Neural Link, Encrypted Comms, Laser Comm	20.5	12
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	5.25
Sensors	Very Advanced Military, Advanced Military, DSS, GADS, Telescope	12.68	16.02
Weapons	EA1000 (retractable) with UTES, Type 29 PDC (retractable) with UTES	9	11.9
Targeting	UTES (+1)	—	—
Drone Controllers	1	0.25	0.5
Tactical Action Centre	6 Personnel (command, gunners x2, remote operator, sensor operators x2, flight controller)	6	0.6
Systems	Zero-G: Automeds x2, Exercise Equipment x10, Galleys x7, Common Areas (20 tons), Safety Lockers x2, Ship's Lockers x2, Simple Freshers x4, Workshops x2	55.5	13.67
Drones and Remotes	Voir Sensor Drone	11.55	13.895
Sub-Craft	8 Châtiment IPSW in Berths	352	98.6
Airlocks	Standard Airlocks x8	—	—
Accommodations	Zero-G: Small Staterooms x20	40	2
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control	—	2.348
Life Support Consumables	120 days for 20 people	4.8	—
Cargo		23.46	—
Total: MLv446.7			

Crew	Passengers	Hull Points	Signature: 3
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech, Reaction Drive Engineer, Stutterwarp Engineer, Power Engineers x2, Small Craft Techs x8, Life Support Tech, Electronics Tech Comfort Rating: -1	—	104	Base Reflected: -2 Base Radiated: 3 (0 with Heat Sinks)

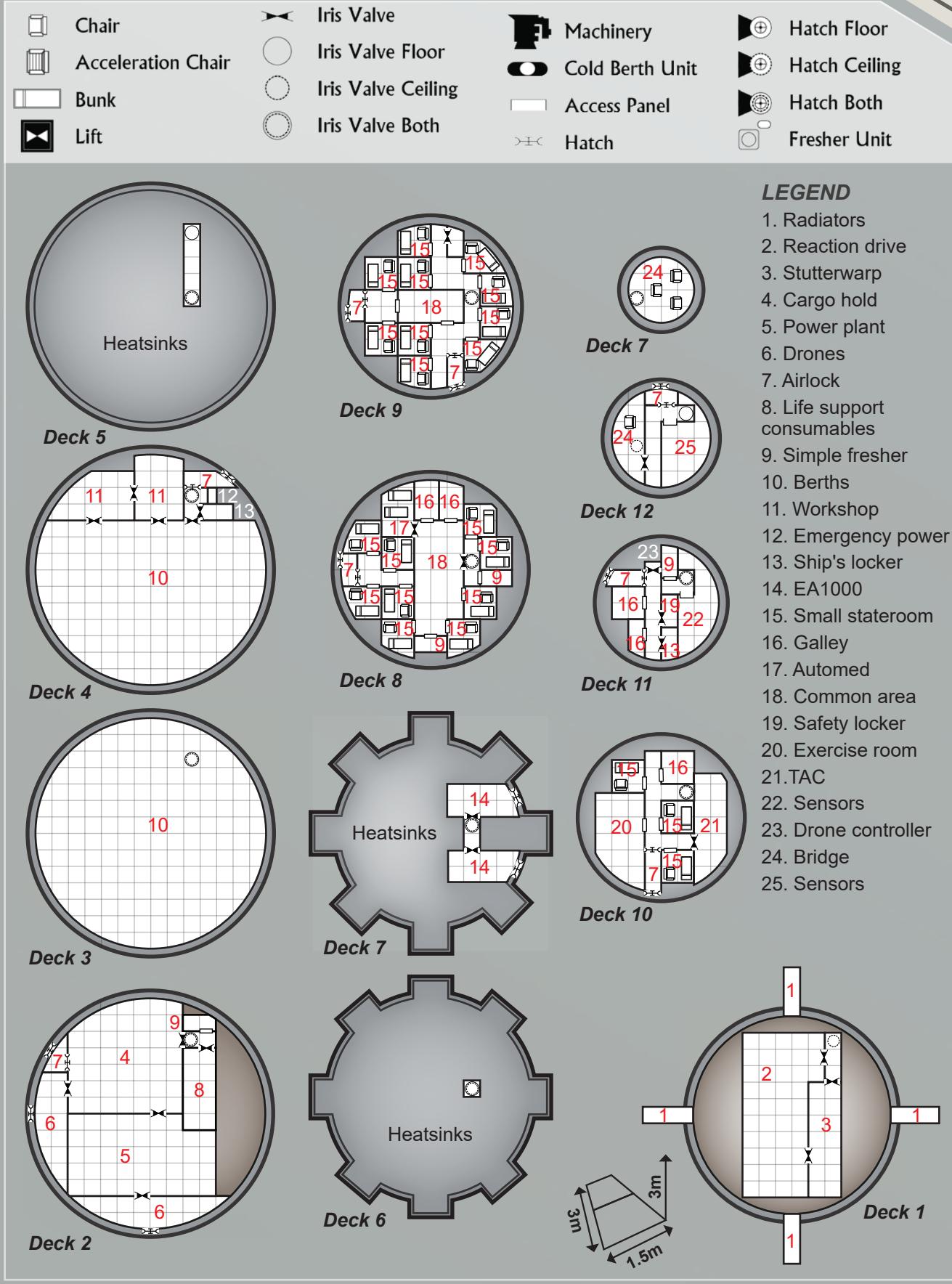
Running Costs

Maintenance Cost: Lv37225/month
Purchase Cost: MLv446.7

Power Requirements

Basic Ship Systems	8
Reaction Drive	80
Stutterwarp	210
Sensors	40
Drone Controllers	2
Weapons	50

SURCOUF DETERRENCE MISSILE BOAT



RETRIBUTION INTERPLANETARY STRIKE WEAPON

NATION: France

FIRST EXAMPLE LAID DOWN: 2293

MANUFACTURER: Giscard Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 114 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 100+

LENGTH: 24 m

WIDTH: 8.5 m

LAUNCH MASS (FULLY FUELLED): 300 tons

POWER PLANT: L'Étage RG40 4 MW MHD Turbine

REACTION DRIVE: Giscard LD-40a 0.4 MW OMS

Thruster, 400 tons thrust

STUTTERWARP: Giscard D70 1.5 MW Gen II Jerome-effect Stutterwarp

The existence of the Retribution (Châtiment) Interplanetary Strike Weapon (IPSW) was first revealed to the public in 2295, as the Council of Generals announced it in an attempt to bolster public opinion of the coup. The reaction was the opposite of what they were hoping for and protests fed into the ongoing protests over the generals' mishandling of the economy and failure to bring the wayward colony of Elysia into

line. These protests would eventually lead to the fall of the generals and the rise of Nicolas Ruffin. It is worth noting that Ruffin's regime has continued construction of these weapons and their carriers.

The IPSW is a high-performance drone bus that relies on speed and stealth versus active sensors. The nine Ritage-2 missiles are intended to swarm aerospace defences and inflict heavy damage on enemy ships and orbital assets. The control systems on board the missiles are adequate to direct the weapons to immobile assets like ships in orbit or stations but lack the ability to effectively engage ships under stutterwarp.

It needs to be noted that the combat drones can be replaced by re-entry vehicles, carrying anything from drop troops to nuclear weapons. The speed of the weapon is high enough to reach an inhabited world from beyond the system Threshold within a day.

The high cost of these weapons restricts their deployment to only a few nations. Other nations are likely investigating the feasibility of fielding their own versions but the current amendment to the Melbourne Accords prohibits any more signatory nations from deploying them.

Crew	Passengers	Hull Points	Signature: 2
Autopilot: Pilot Skill 2	—	2	Base Reflected: 0 Base Radiated: 2

Running Costs

Maintenance Cost: Lv5178/month

Purchase Cost: MLv62.1

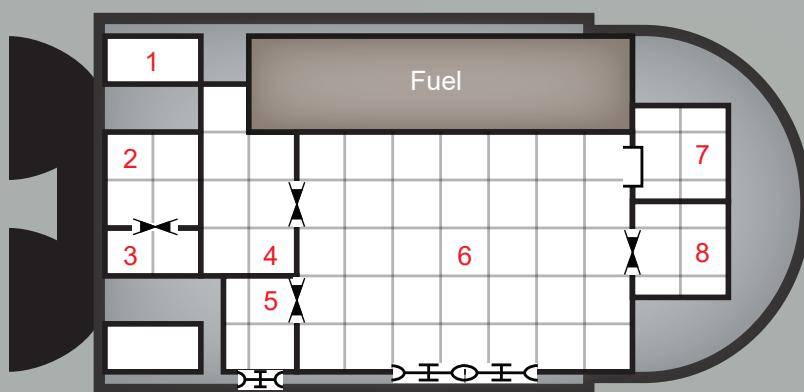
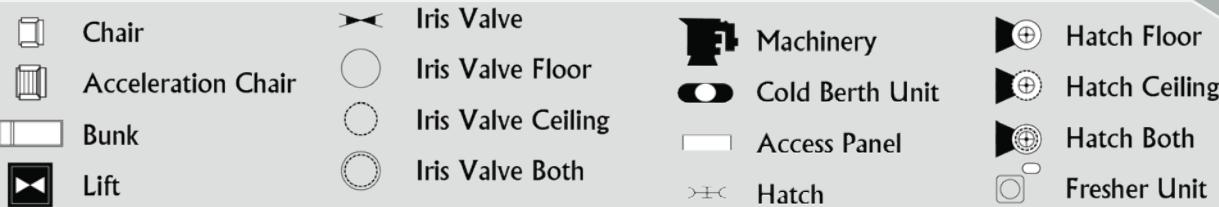
Power Requirements

Power
Basic Ship Systems
Reaction Drive
Stutterwarp
Sensors
Drone Controllers



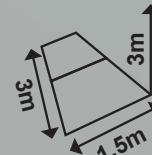
RETRIBUTION INTERPLANETARY STRIKE WEAPON

TL12		Tons	Cost (MLv)
Hull	40-ton Synthetic Ballistic	—	0.96
Hull Features	Advanced, Stealth, Disposable	—	4.6
Reaction Drive	OMS Thruster (advanced, disposable)	1.08	0.84
Stutterwarp	4.44 ly/day, Tac Speed: 4, System Speed: 2.8638 AU per day	1.83	9.13
Power Plant	MHD Turbine (Power 45)	3.33	1.83
Fuel Tanks	OMS Thruster (6 Burns) Power Plant (24 hours)	6.48 1.44	— —
Radiators	AHDR, Capacity 45	2	1
Bridge	Autopilot, Encrypted Comms	—	1.4
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	5.25
Sensors	Basic Military	2	4
Ordnance	Combat Drones: Ritage-2 x9	17.33	28.07
Drone Controllers	9	2.25	4.5
Software	Manoeuvre, Robotic Control: (advanced, skill 2, voice/speech recognition, interactive, personality)	—	0.2
Cargo		1.41	—
Total: MLv62.14			



LEGEND

1. Radiators
2. Stutterwarp
3. Reaction drive
4. Power plant
5. Cargo space
6. Combat drones
7. Sensors
8. Drone controller



RACINE FLEET SIGNALS INTELLIGENCE VESSEL

NATION: United States

FIRST EXAMPLE LAID DOWN: 2296

MANUFACTURER: Trilon Aerospace Division

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 649 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: United States

NUMBER IN SERVICE: 1+2

LENGTH: 52.24 m

WIDTH: 26.12 m

LAUNCH MASS (FULLY FUELLED): 4,590 tons

POWER PLANT: Hyde Dynamics PW400 40 MW

Fusion Reactor

REACTION DRIVE: Trilon Aerospace Raptor-E 5 MW

Advanced Nuclear OMS Thruster, 50,00 tons thrust

STUTTERWARP: Trilon L-Series 12 MW Gen II Jerome-effect Stutterwarp

The *USSF Racine* is the lead craft in the Racine class of fleet signals intelligence craft. They are not intended as combatants, and are armed only for self-defence, but carries perhaps the most sophisticated electronics suite ever put into a spacecraft. In addition to the Space Force crew of 64, the Racine also carries 10

intelligence analysts, usually civilian. These analysts each have their own workstation in the TAC, which is often customised and decorated to suit the user.

While the Racine only carries six SIM-14 missiles, it is equipped with six drone controllers, allowing all six to be 'in the air' in case of trouble. Two EA-122 arrays and three Type 29-PDCs round out the armament. Normal deployment for this ship is to sit outside of the system Threshold and monitor all traffic within the system. At that range, the crew should easily be able to detect any trouble coming and can flee at FTL speeds. If the ship needs to go deeper in-system, it is typically provided with an escort.

Spin habitats provide life support for the 65 crew and 10 intelligence specialists in relative comfort. The habitats are designed to retract flush with the hull when required.

The full array of sensors carried aboard the Racine is classified but it is thought that it is equipped with the latest AN-990 active/passive system from Traylor Aerospace. If this is the case, it would be the first example of an ASF craft with EW capabilities on par with, if not exceeding, Imperial French vessels.

Crew	Passengers	Hull Points	Signature: 3
<p>Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x6, Life Support Techs x3, Electronics Techs x3, Gunners x10, Drone Pilots x12, Drone Technician, Security Officers x2, Medics x2, Intelligence Analysts x10</p> <p>Comfort Rating: +1</p>	—	65	<p>Base Reflected: 3 Base Radiated: 3 Spin Hab Retracted: -1</p>



Power Requirements

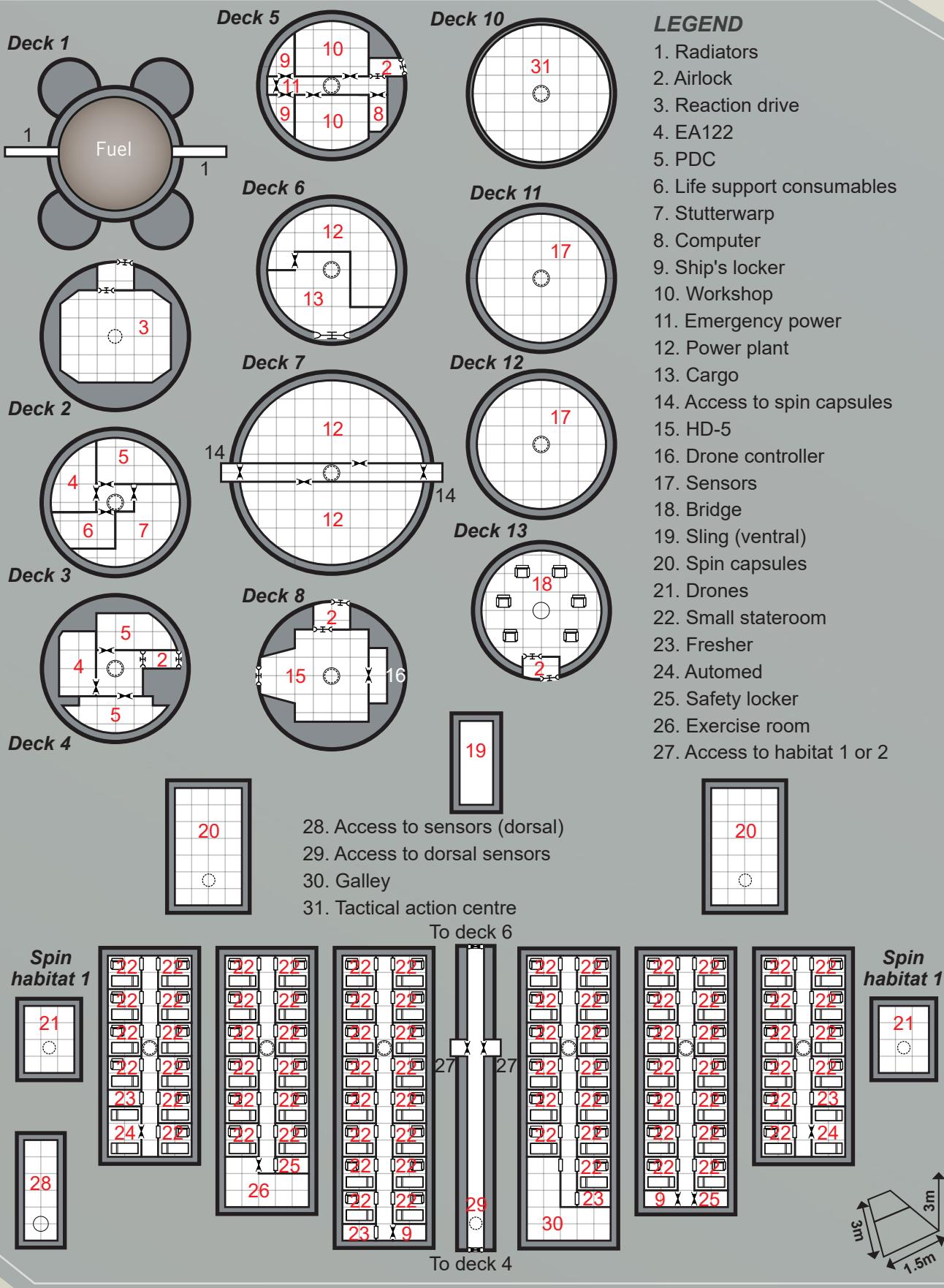
Power Requirements	Power
Basic Ship Systems	5
Reaction Drive	50
Stutterwarp	120
Sensors	65
Drone Controllers	12
Weapons	125

RACINE FLEET SIGNALS INTELLIGENCE VESSEL

TL12		Tons	Cost (MLv)
Hull	500-ton Composite Spaceframe	—	15
Hull Features	Radiation Shield, Advanced	—	12.5
Armour	4	10	6
Reaction Drive	Nuclear OMS Thruster (advanced)	13.5	30
Stutterwarp	3.22 ly/day, Tac Speed: 3, System Speed: 2.14 AU/day	5.16	25.82
Power Plant	Fusion Reactor (Power 400)	26.67	32
Emergency Power	Power 5 (24 hours)	0.12	0.12
Fuel Tanks	Nuclear OMS Thruster (6 Burns)	27	—
Radiators	AHDR, Capacity 600	30	15
Bridge	Standard, with Neural Link, Encrypted Comms, Laser Comm	20.5	9.75
Computer	Primary: Computer/30fib Secondary: Computer/25fib	1.0	25
Sensors	Very Advanced Military, Advanced Military, Advanced Survey, DSS, GADS, Telescope, Extendable Array, Enhanced Signal Processing, Military Countermeasures	44.52	40.18
Weapons	EA122 Laser Arrays (hardened, retractable surface mounts) with UTES x2, Type 29 PDC (hardened, retractable surface mounts) x3	23	18.5
Targeting	UTES (+1)	—	—
Ordnance	Combat Drones: SIM-14 x6	12.54	19.3254
Drone Controllers	6	1.5	3
Tactical Action Centre	24 Personnel (command, gunners x5, remote operators x6, sensor operators x12)	24	2.4
Systems	Under Spin: Automeds x2, Exercise Equipment for 10, Galley for 10, Safety Lockers x2, Ship's Lockers x2, Simple Freshers x4 Zero-G: Ship's Lockers x2, Workshops x2 Sling (100 tons)	39.5	12.02
Drones and Remotes	HD-5 Scout Drones x3	9.9	22.56
Airlocks	Standard Airlocks x5	—	—
Accommodations	Under Spin: Small Staterooms x75	150	7.5
Artificial Gravity	Type: Extendable Spin Capsules (192.1 tons under spin) Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes	30.86	30.86
Software	Archive, Auto-Repair/1, Fire Control/1, Intellect, Manoeuvre, Stutterwarp Control	—	9.29
Life Support Consumables	30 days for 75 people	4.5	—
Cargo		8.2	—
Total: MLv314.23			

Running Costs

Maintenance Cost: Lv26169/month
 Purchase Cost: MLv314.03



SUFFREN BATTLECRUISER

NATION: France

FIRST EXAMPLE LAID DOWN: 2276

MANUFACTURER: L'Étage Heavy Space Systems

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 1506 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 8

LENGTH: 80.07 m

WIDTH: 40.04 m

LAUNCH MASS (FULLY FUELLED): 16,605 tons

POWER PLANT: L'Étage MK1100 110 MW Fusion Reactor

REACTION DRIVE: L'Étage Vortex-C 20 MW Fusion-Pumped OMS Thruster, 18,000 tons thrust

STUTTERWARP: 40 MW Gen II Jerome-effect Stutterwarp

Until the advent of the Bismarck and Richelieu, the Suffren was the premiere heavy combatant in human space. The Suffren is designed to be a multirole vessel,

heavily-armed and armoured for space combat. At the same time, it can land a battalion of assault troops and combat walkers, with artillery batteries to support them on the surface of a planet. Three heavy EDA-150 landers, each carrying a half-company of conventional troops, a squad of combat walkers and a pair of support vehicles allow the Suffren to project force anywhere on a planet.

Her combat drone complement is high and she carries sufficient controllers and crew to have up to 20 'in the air' at once.

There is a carrier variant of the Suffren, with two examples in service, carrying eight Martel or 12 Mistral fighters in place of landers and troops. This version retains the artillery railguns and all other armament.

Crew	Passengers	Hull Points	Signature: 5
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x15, Small Craft Techs x6, Life Support Techs x3, Electronics Tech x3, Gunners x36, Drone Pilots x12, Drone Technicians x2, Security x4, Ship's Troops x300, Small Craft/Fighter Pilots x15, Medics x16 Comfort Rating: -1	—	260	Base Reflected: 5 Base Radiated: 4 Spin Hab Retracted: -1

Running Costs

Maintenance Cost: Lv65784/month
Purchase Cost: MLv789.41

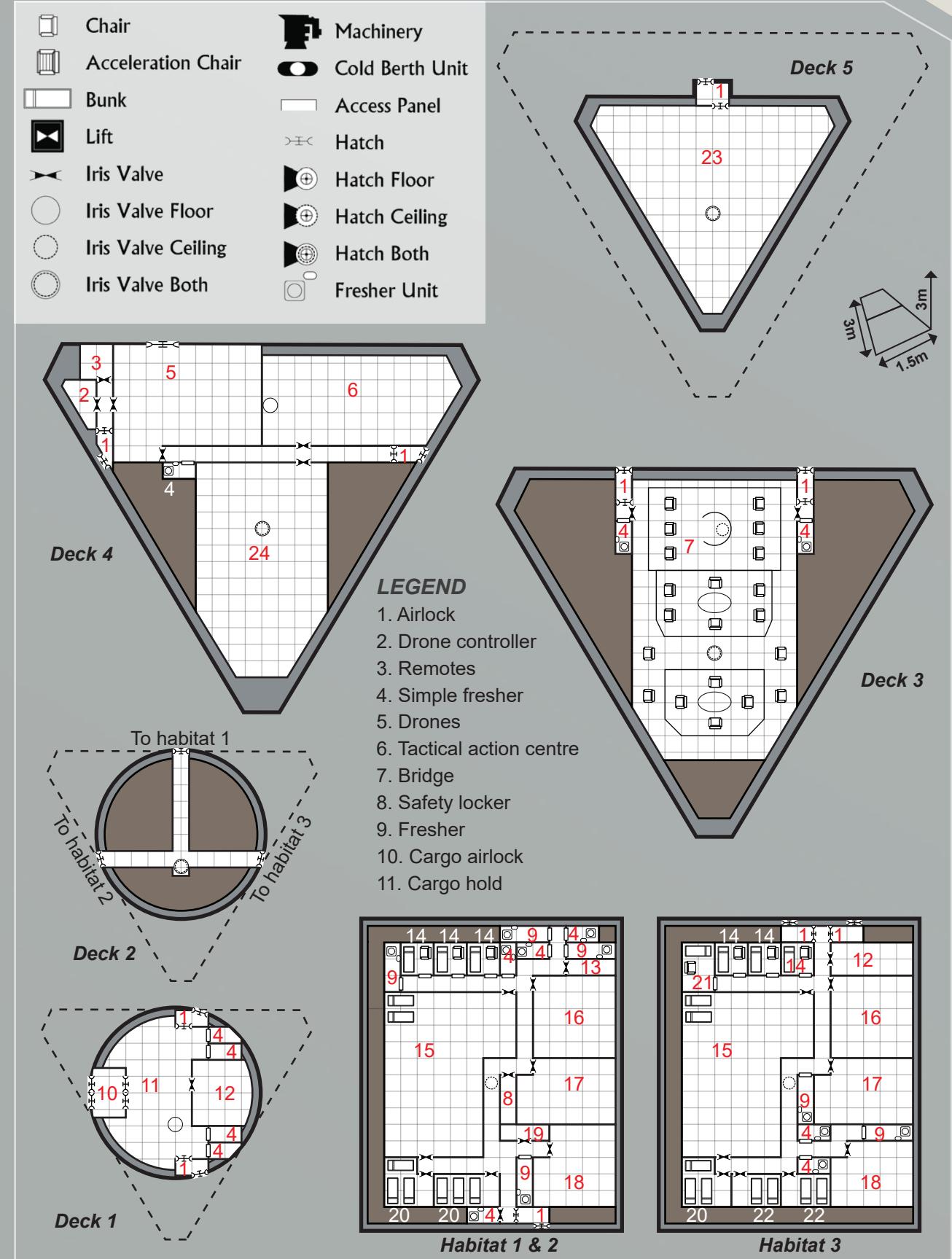
Power Requirements

Power Requirements	Power
Basic Ship Systems	18
Reaction Drive	200
Stutterwarp	400
Sensors	62
Drone Controllers	12
Weapons	340
Screens	40

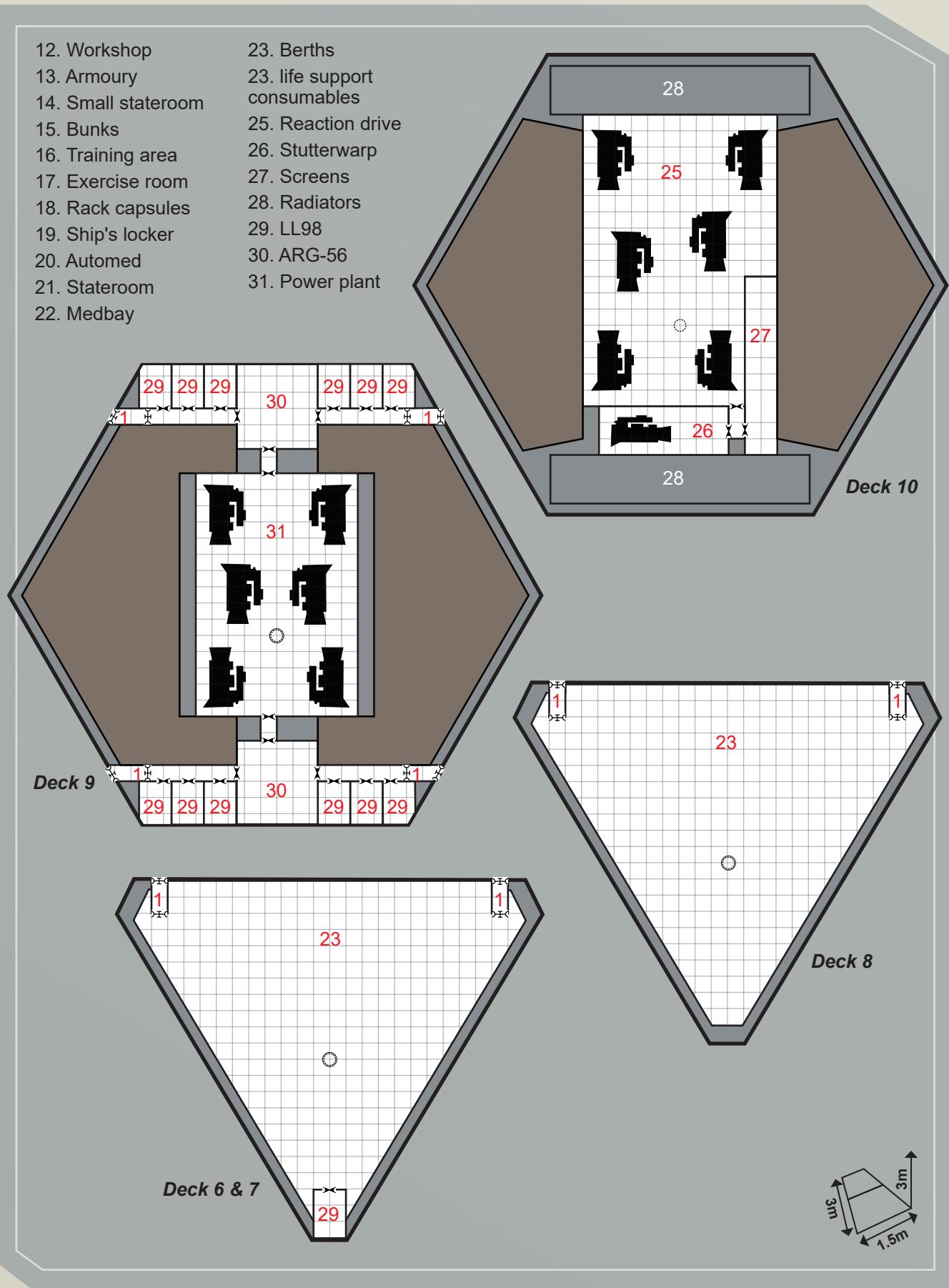


TL12		Tons	Cost (MLv)
Hull	2,000-ton Composite Spaceframe	—	60
Hull Features	Advanced, Radiation Shield	—	50
Armour	6	60	36
Reaction Drive	Nuclear OMS Thruster (advanced)	54	120
Stutterwarp	2.95 ly/day, Tac Speed: 3 System Speed: 1.9 AU/day	9.43	47.14
Power Plant	Fusion Reactor (Power 1,100)	73.33	88
Emergency Power	Power 20 (24 hours)	0.48	0.48
Fuel Tanks	Nuclear OMS Thruster (8 Burns)	144	—
	Subcraft Fuel 3 refill for each	250.83	—
Radiators	AHDR, Capacity 1,200	60	30
Bridge	Large, Encrypted Comms, Laser Comm	80.5	15
Computer	Primary: Computer/30fib Secondary: Computer/25fib Targeting: Computer/10tar	—	24
Weapons	LL98 x14 (retractable), with UTES, ARG-56 x2 (retractable) with UTES	72	32.9
Screens	Rating: 4	3	8
Targeting	UTES (+1), Fire Control (+2)	—	—
Ordnance	Combat Drones: Ritage-1 x10, Ritage-2 x10	30.8	32.51
Drone Controllers	6	1.5	3
Tactical Action Centre	30 Personnel (command, gunners x16, remote operators x10, sensor operators x2, flight controller)	27	2.7
Systems	Under Spin: Armouries x2, Automeds x5, Exercise Equipment for 50, Freshers x10, Medbays x2, Safety Lockers x2, Ship's Lockers x2, Simple Freshers x10, Workshop, Training Area for 50 Zero-G: Safety Locker, Simple Freshers x6, Workshop	190.75	41.28
Drones and Remotes	Repair Remotes x20	2.2	0.22
Sub-Craft	EDA-150 Combat Landers x3 in Berths	495	96.15
Airlocks	Standard Airlocks x18, Small Cargo Airlock	4	0.04
Accommodations	Under Spin: Stateroom, Small Staterooms x9, Rack Capsules (for 2) x65, Bunks (for 3) x100	187	20.15
Artificial Gravity	Type: Extendable Spin Capsules (417.53 tons Under Spin) Radius: 45 m, 3 RPM, Gravity: 0.45 G, Spin Up/Down: 27 minutes	75.16	75.16
Software	Archive, Auto-Repair/1, Intellect, Manoeuvre, Stutterwarp Control Targeting Comp: Fire Control/2	—	11.18
Life Support Consumables	56 days for 440 people	49.28	—
Cargo		25.3	—
Total: MLv789.41			

SUFFREN BATTLECRUISER



- 12. Workshop
- 13. Armoury
- 14. Small stateroom
- 15. Bunks
- 16. Training area
- 17. Exercise room
- 18. Rack capsules
- 19. Ship's locker
- 20. Automed
- 21. Stateroom
- 22. Medbay
- 23. Berths
- 23. life support consumables
- 25. Reaction drive
- 26. Stutterwarp
- 27. Screens
- 28. Radiators
- 29. LL98
- 30. ARG-56
- 31. Power plant



BISMARCK BATTLESHIP

NATION: Germany

FIRST EXAMPLE LAID DOWN: 2294

MANUFACTURER: BRW AG (Bavische Raumfahrzeug Werke)

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 1,621 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Germany

NUMBER IN SERVICE: 1+2

LENGTH: 85 m

WIDTH: 42 m

LAUNCH MASS (FULLY FUELLED): 19,500 tons

POWER PLANT: 120 MW Fusion Reactor

REACTION DRIVE: Advanced Nuclear OMS Thruster, 20,000 tons thrust

STUTTERWARP: 40 MW Gen II Jerome-effect Stutterwarp

The Bismarck is the first post-Reunification large combat vessel to enter service with the united Deutsches Stern Kriegsmarine (DSKM). Equipped with the potent and business-like Gustav fighters, and

capable of landing considerable numbers of troops, the Bismarck fills a clear gap in the DSKM's power projection capability. Unlike the similar (but larger) Richelieu battleship of the French navy, the Bismarck was never intended to operate independently. Rather, it is intended as the core of a potent strike squadron capable of tackling any fleet mission. The first ship of the class (the *Bismarck*) is currently the flagship of the German squadron engaging the Kaefers. Two additional ships of this type have been laid down but neither have yet been named and are well over a year from completion.

Heavily-armed with drones and energy weapons, the Bismarck relies on support craft and drones to engage hostile fighters and drone. The particle beam batteries are not effective at targeting smaller craft but can inflict grievous damage on larger vessels.

In addition to 10 Gustav fighters, the Bismarck carries a pair of heavy combat landers based on a militarised SLV-55, along with four aerospace support craft.

Crew	Passengers	Hull Points	Signature: 5
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3 , Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x15, Small Craft Techs x16, Life Support Techs x3, Electronics Techs x3, Gunners x20, Drone Pilots x12, Drone Technicians, Security x4, Ship's Troops x90, Small Craft Pilots x32, Medics x9 Comfort Rating: +0	—	273	Base Reflected: 5 Base Radiated: 4 Spin Hab Retracted: -1



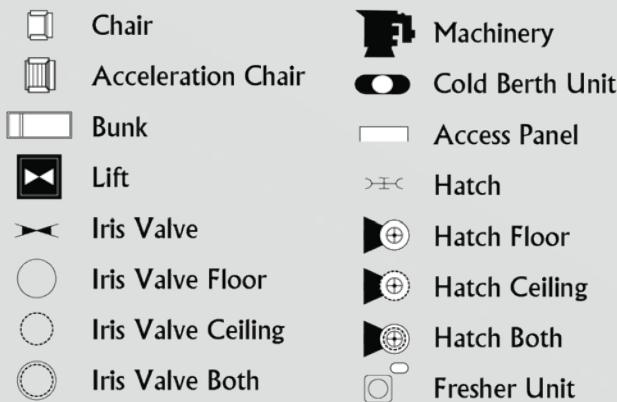
Running Costs

Maintenance Cost: Lv70175/month
Purchase Cost: MLv842.1

Power Requirements	Power
Basic Ship Systems	21
Reaction Drive	210
Stutterwarp	400
Sensors	42
Drone Controllers	12
Weapons	310
Screens	80
Other	14

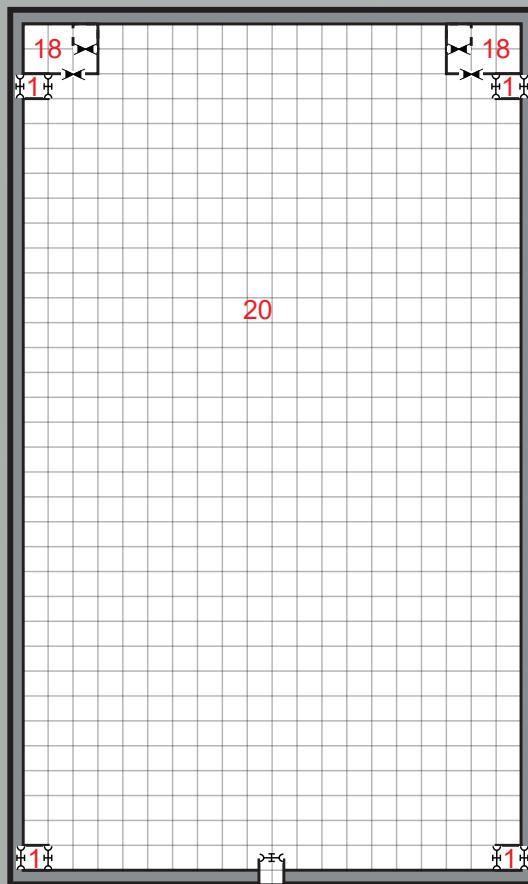
TL12		Tons	Cost (MLv)
Hull	2,100-ton Composite Spaceframe	—	63
Hull Features	Radiation Shield, Advanced	63	52.5
Armour	6	63	37.8
Reaction Drive	Nuclear OMS Thruster (advanced)	54	120
Stutterwarp	2.87 ly/day, Tac Speed: 3, System Speed: 1.85 AU/day	9.43	47.14
Power Plant	Fusion Reactor (Power 1,200)	80	96
Emergency Power	Power 21 (24 hours)	0.48	0.48
Fuel Tanks	Nuclear OMS Thruster (8 Burns)	144	—
	Subcraft Fuel 4 refills	137.06	—
Radiators	AHDR, Capacity 1,400	70	35
Bridge	Standard, Encrypted Comms, Laser Comm	60.5	16.5
Computer	Primary: Computer/20fib Secondary: Computer/15fib Targeting: Computer/10tar	—	5.37
Sensors	Advanced Military, Basic Military, Standard Survey, DSS, GADS, Telescope, Countermeasures Suite	28.94	30.31
Weapons	EA1000 x4 (hardened, retractable), Allen PBWS x6 (hardened, retractable)	34	67.6
Screens	Rating: 5	4	12
Targeting	UTES (+1), Targeting Computer (+1)	0.5	—
Ordnance	Combat Drones: SR-10 x12	18.48	31.39
Drone Controllers	6	1.5	3
Tactical Action Centre	21 Personnel (command, gunners x10, remote operators x6, sensor operators x2, flight controllers x2)	19	1.9
Systems	Under Spin: Armouries x2, Automeds x2, Exercise Equipment for 50, Galley for 50, Medbays x4, Operating Theatre for 4 patients, Recovery Ward for 10 patients, Safety Lockers x4, Ship's Lockers x3, Simple Freshers x4, Common Areas (50 tons) Zero-G: Ship's Lockers x2, Workshops x2 Sling (100 tons)	304	86.22
Drones and Remotes	Repair Remotes x10	1.1	2.11
Sub-Craft	Gustav Fighters x10 in Berths, SLV-55 Scout Landers x2 in Berths, Typhoon Aerospace Fighters x4 in Berths	539	87.64
Airlocks	Standard Airlocks x20, Small Cargo Airlocks x2	8	0.08
Accommodations	Under Spin: Small Staterooms x160, Staterooms x3, Bunks (for 3) x30	362	18.25
Artificial Gravity	Type: Extendable Spin Capsules (599 tons Under Spin) Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes	98.84	98.84
Software	Archive, Intellect, Manoeuvre, Stutterwarp Control Targeting Computer Fire Control/3	—	13.148
Life Support Consumables	60 days for 250 people	30	—
Cargo		11.25	—
Total: MLv837.63			

BISMARCK BATTLESHIP

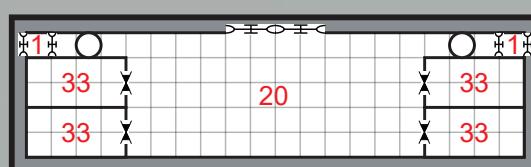
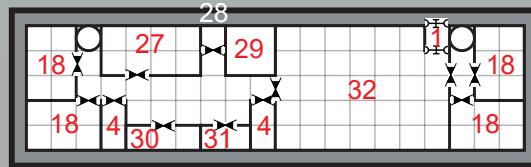
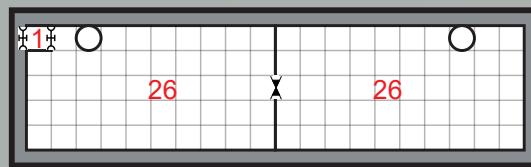
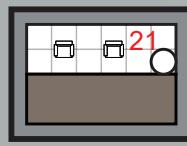
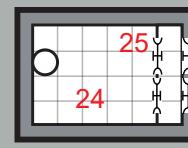
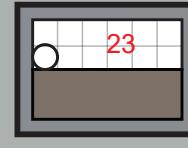
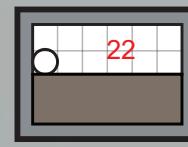


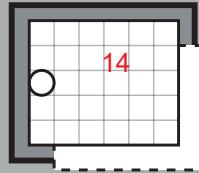
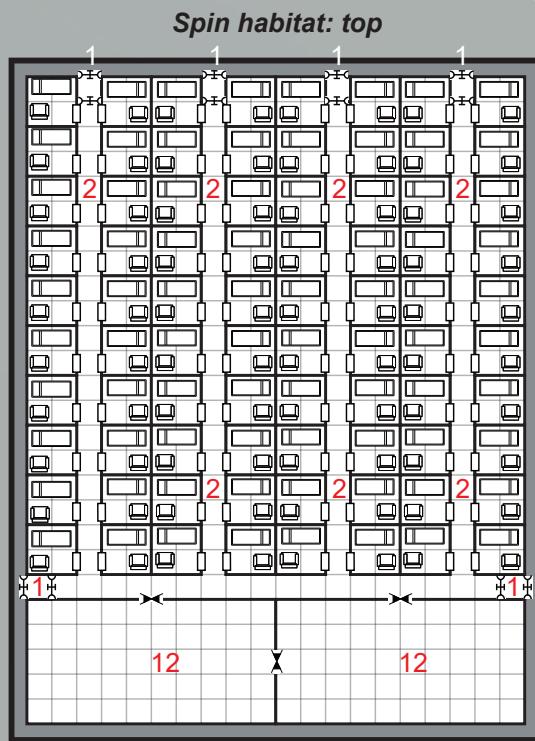
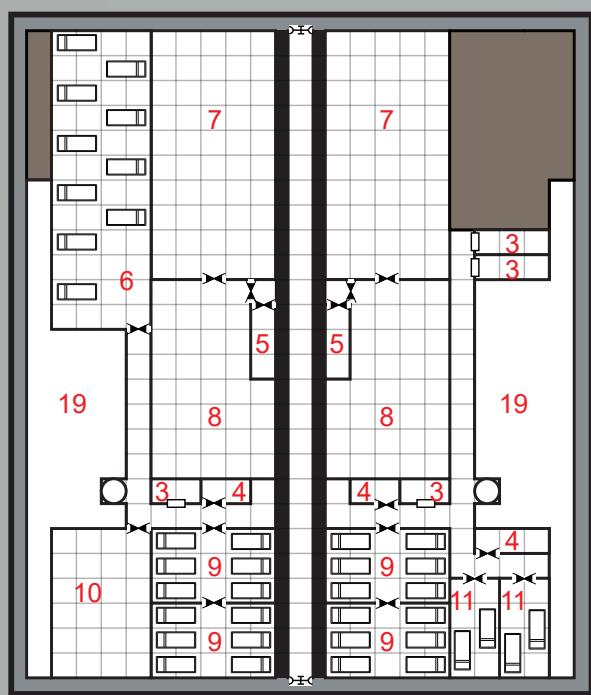
LEGEND

1. Airlock
2. Small stateroom
3. Simple fresher
4. Ship's locker
5. Safety locker
6. Recovery ward
7. Common area
8. Galley
9. Medbay
10. Theatre
11. Automed
12. Exercise room
13. Power plant

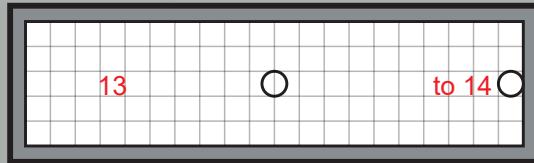


14. Sensors
15. Stutterwarp
16. Emergency power
17. Reaction drive
18. PBWS
19. Retractable spin capsules
20. Berthing area
21. Bridge (10 decks high)
22. Drones (3 decks high)
23. Life support consumables
24. Cargo (2 decks high)
25. Cargo airlock
26. Workshop
27. Screens
28. Targeting pc
29. Sling
30. Drone controller
31. Remotes
32. Tactical action centre
33. EA1000

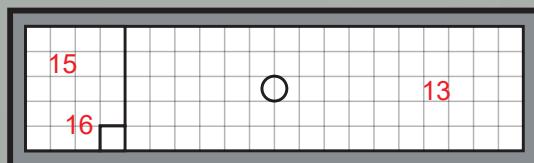
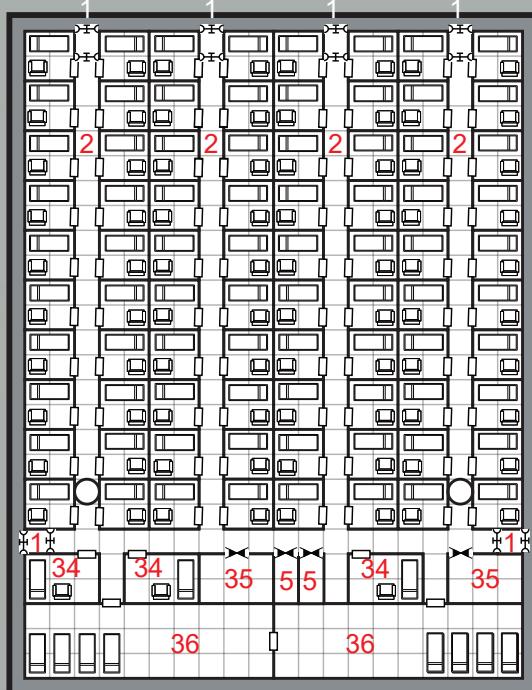




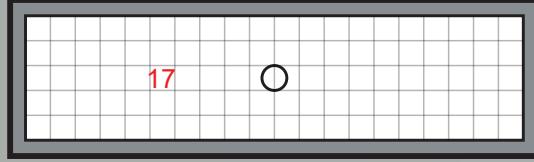
Deck 4



Spin habitat: bottom



Deck 2



Deck 1

CHI'EN LUNG PATROL CRAFT

NATION: Manchuria

FIRST EXAMPLE LAID DOWN: 2285

MANUFACTURER: Manchurian Aerospace Science and Industry Corporation (MASIC)

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 521 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Manchuria

NUMBER IN SERVICE: 11

LENGTH: 61.11 m

WIDTH: 30.55 m

LAUNCH MASS (FULLY FUELLED): 7,380 tons

POWER PLANT: Star City TC 325 32.5 MW MHD Turbine

REACTION DRIVE: MASIC VK-80e 8 MW OMS Thruster, 8,000 tons thrust

STUTTERWARP: MASIC K-75 7.5 MW Gen II Jerome-effect Stutterwarp

French Naval Intelligence classifies the Chi'en Lung as a light cruiser, although other Manchurian patrol craft are smaller. Manchurian ship definitions do not always translate into common nomenclature, much like

American ship classes. While heavily-armed with lasers, the Chi'en Lung is definitely on the slow side. Along with a light drone complement, the latest hulls are fitted with berths for a pair of Jian fighters and there is a magnetic sling for other craft.

Unusually for such a large military vessel, the Chi'en Lung is powered by an MHD Turbine rather than a nuclear power plant. This indicates to analysts that the Chi'en Lung is intended as a second-tier craft rather than a line of battle vessel. The fuel consumption of the turbine requires the ship to refuel every two weeks, necessitating a large number of stops as it travels. This fits the analysis. As Manchuria maintains a number of aerospace refuelling stations, this is not considered an issue as long as its use is confined to the Manchurian Arm.

There are rumours of a nuclear-powered variant of this ship that is much faster but externally resembles the low-powered version. It would require a careful examination of their radiated signature to determine the difference.

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3 , Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x6, Small Craft Techs x2, Life Support Techs x3, Electronics Techs x3, Gunners x16, Drone Pilots x4, Drone Technicians, Security Officers x2, Fighter Pilots x4, Medics x2 Comfort Rating: +0	—	104	Base Reflected: 3 Base Radiated: 3 Spin Hab Retracted: -1

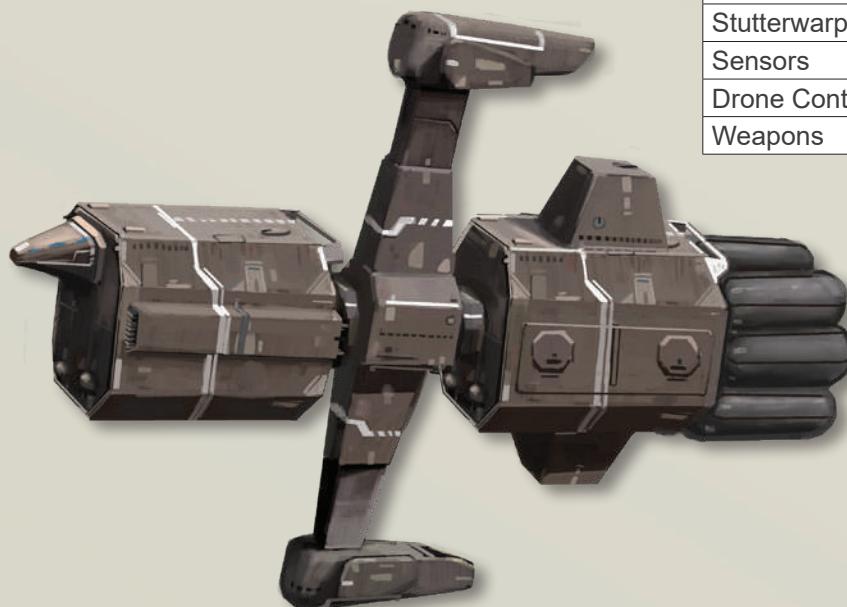
Running Costs

Maintenance Cost: Lv19103/month
Purchase Cost: MLv229.24

Power Requirements

Power

Basic Ship Systems	8
Reaction Drive	80
Stutterwarp	75
Sensors	42
Drone Controllers	4
Weapons	180

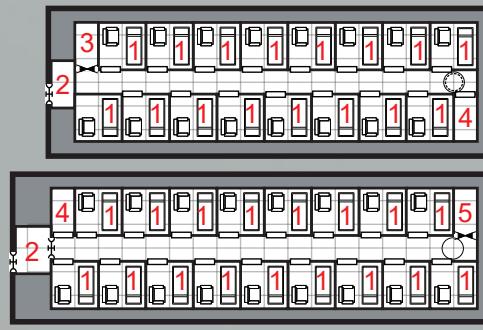
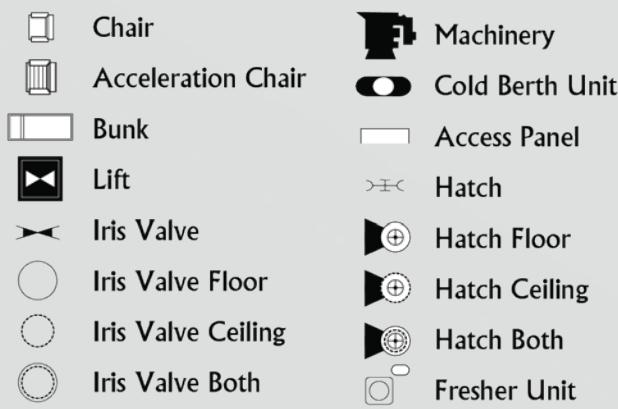


TL11		Tons	Cost (MLv)
Hull	800-ton Composite Spaceframe	—	24
Hull Features	Radiation Shield	—	4
Armour	5	20	12
Reaction Drive	OMS Thruster	24	9.6
Stutterwarp	2.01 ly/day, Tac Speed: 2 System Speed: 1.3 AU/day	4.08	8.16
Power Plant	MHD Turbine (Power 325)	32.5	14.4
Emergency Power	Power 8 (24 hours)	0.96	0.96
Fuel Tanks	OMS Thruster (5 Burns)	120	—
	Power Plant (2 weeks)	162.5	—
	Subcraft Fuel 2 refills	15.66	—
Radiators	AHDR, Capacity 325	16.25	8.125
Bridge	Standard, Encrypted Comms, Laser Comm	20.5	10
Computer	Primary: Computer/25fib Secondary: Computer/20fib	—	11.37
Sensors	Advanced Military, Basic Military, Standard Survey, DSS, GADS, Telescope	21.41	20.42
Weapons	EA122 Laser Arrays (hardened, retractable surface mounts) x8, in 2 Batteries of 4	18	15.2
Targeting	Light TTA (0) x8, Targeting Computer (+1)	16	2
Ordnance	Combat Drones: Fan Tans x8	14.08	19.7408
Drone Controllers	2	0.5	1
Tactical Action Centre	13 Personnel (command, gunners x8, remote operators x2, sensor operators x2)	13	1.3
Systems	Under Spin: Automeds x2, Exercise Equipment x10, Safety Lockers x2, Ship's Lockers x2, Simple Freshers x4, Workshop Zero-G: Safety Locker, Simple Freshers x3, Workshop Sling (60 tons)	29.25	11.385
Sub-Craft	Jian Fighters x2 in Berths	70.4	33.6
Airlocks	Standard Airlocks x8	—	—
Accommodations	Under Spin: Small Staterooms x67, Staterooms x3	146	8.2
Artificial Gravity	Type: Extendable Spin Capsules (174.9 tons Under Spin) Radius: 45 m, 3 RPM, Gravity: 0.45 G, Spin Up/Down: 27 minutes	31.48	31.48
Software	Archive, Fire Control/1, Intellect, Manoeuvre, Stutterwarp Control	—	3.768
Life Support Consumables	60 days for 70 people	8.4	
Cargo		17.93	—
Total: MLv229.24			

LEGEND

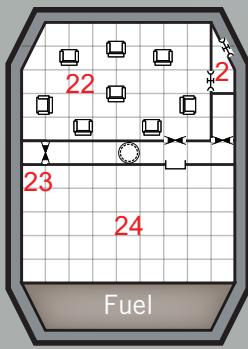
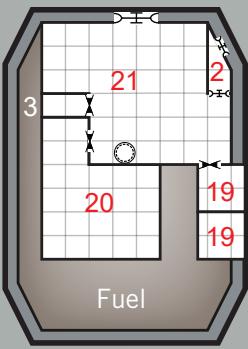
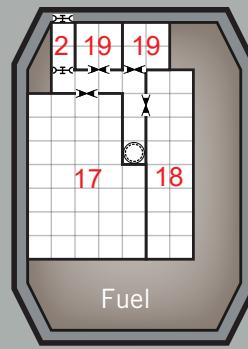
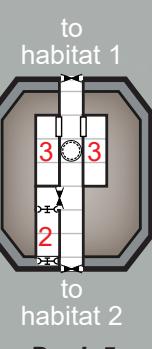
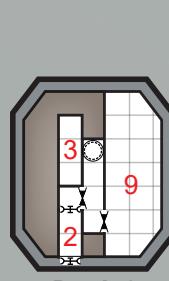
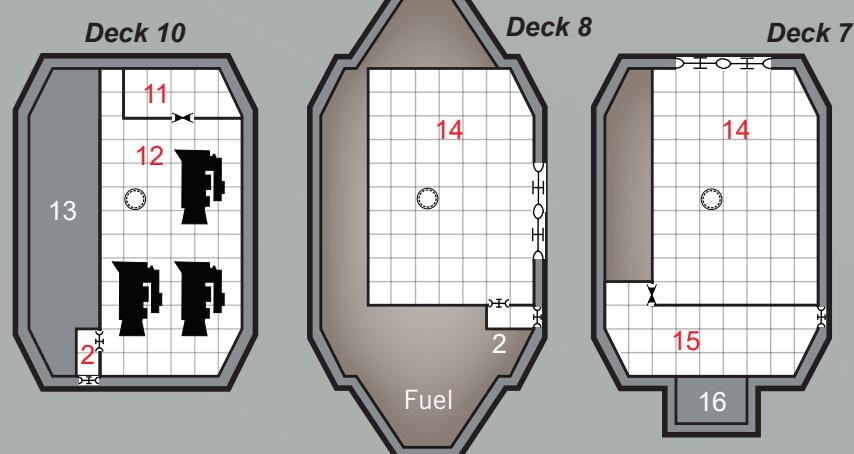
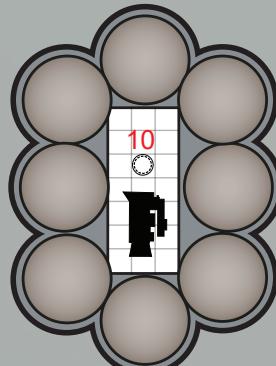
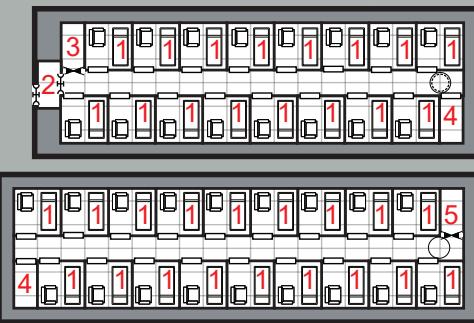
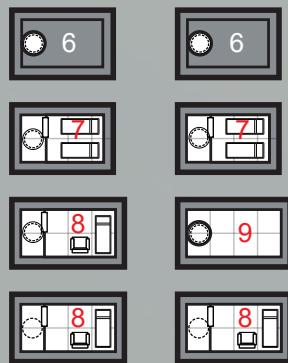
- | | | | |
|-----------------------------|--------------------|-------------------------------|----------------------|
| 1. Small stateroom | 7. Automed | 14. Berths | 21. Cargo |
| 2. Airlock | 8. Stateroom | 15. Drones | 22. Bridge |
| 3. Safety locker | 9. Workshop | 16. Sling | 23. Drone controller |
| 4. Simple fresher | 10. Reaction drive | 17. Light TTA | 24. Sensors |
| 5. Ship's locker | 11. Stutterwarp | 18. Light support consumables | |
| 6. Extendable spin capsules | 12. Power plant | 19. EA122 | |
| | 13. Radiators | 20. Tactical action centre | |

CHI'EN LUNG PATROL CRAFT



3m
1,5m

Habitat 1 arm **Habitat 2 arm**



RICHELIEU BATTLESHIP

NATION: France

FIRST EXAMPLE LAID DOWN: 2286

MANUFACTURER: Giscard Aerospace Division

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 8.5 Years

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

NUMBER IN SERVICE: 3 (1 lost)

LENGTH: 108.67 m

WIDTH: 54.34 m

LAUNCH MASS (FULLY FUELLED): 33,750 tons

POWER PLANT: Darlan Power Systems NV-1500 150 MW Fusion Reactor

REACTION DRIVE: L'Étage ZP-V 48 MW Fusion-Pumped

OMS Thruster, 45,000 tons thrust

Stutterwarp: L'Étage 'Tartarus VI' 60 MW Gen II

Jerome-effect Stutterwarp

The advent of the first ship of this class ushered in a new era of super-heavy warships. The only human warship that even comes close at the moment is the *Bismarck*, although Manchuria, America and the United Kingdom are constructing warships that are in the same class as the Richelieu, although even then not as big.

The six Martel gunboats carried by the *Richelieu* represent a significant amount of its firepower, with considerable hull space devoted to them and the nine EDA-60 medium landers carried. Later ships reduced the gunboat complement, swapped out the nine EDA-60 for three EDA-150s and added upgraded combat drone capabilities and heavier weapons. Only three ships of this class were constructed, although two more are on order. The *Ste. Jeanne d'Arc* was lost in combat with the Kaefers, the *Richelieu* has been deployed to Beta Canum and the latest ship, the *Tallyrand*, is currently in the Core on shakedown manoeuvres. It is expected to remain there as part of the home squadron.

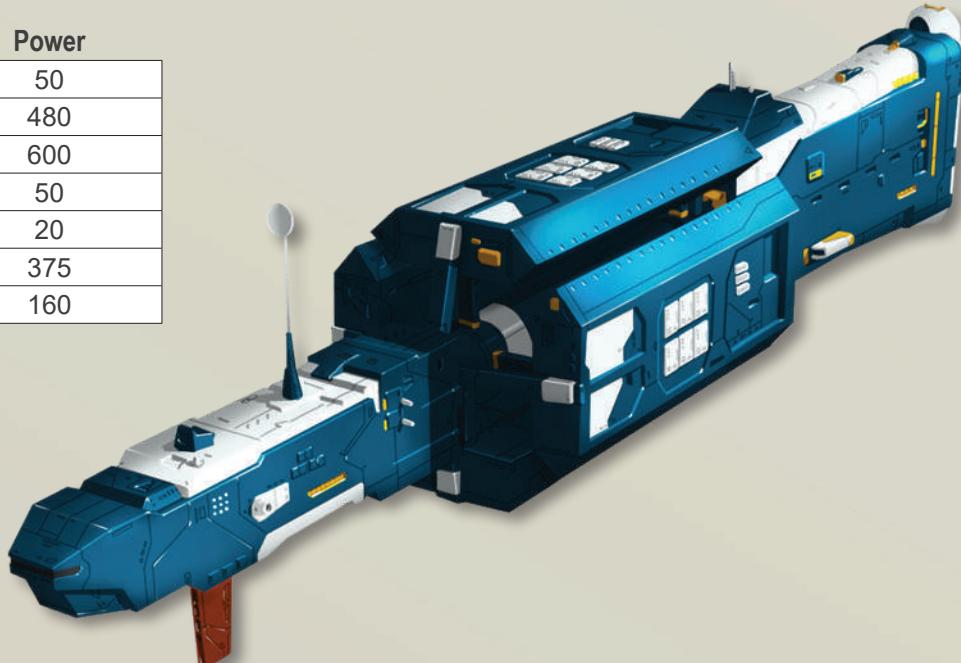
Crew	Passengers	Hull Points	Signature: 8
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineer x18, Small Craft Techs x21, Life Support Techs x3, Electronics Techs x3, Gunners x62, Drone Pilots x20, Drone Technicians x2, Security Officers x6, Ship's Troops x1,041, Small Craft/Fighter Pilots x57, Medics x50 Comfort Rating: +1	20	550	Base Reflected: 8 Base Radiated: 4

Running Costs

Maintenance Cost: Lv137500/month

Purchase Cost: MLv1650.52

Power Requirements	Power
Basic Ship Systems	50
Reaction Drive	480
Stutterwarp	600
Sensors	50
Drone Controllers	20
Weapons	375
Screens	160



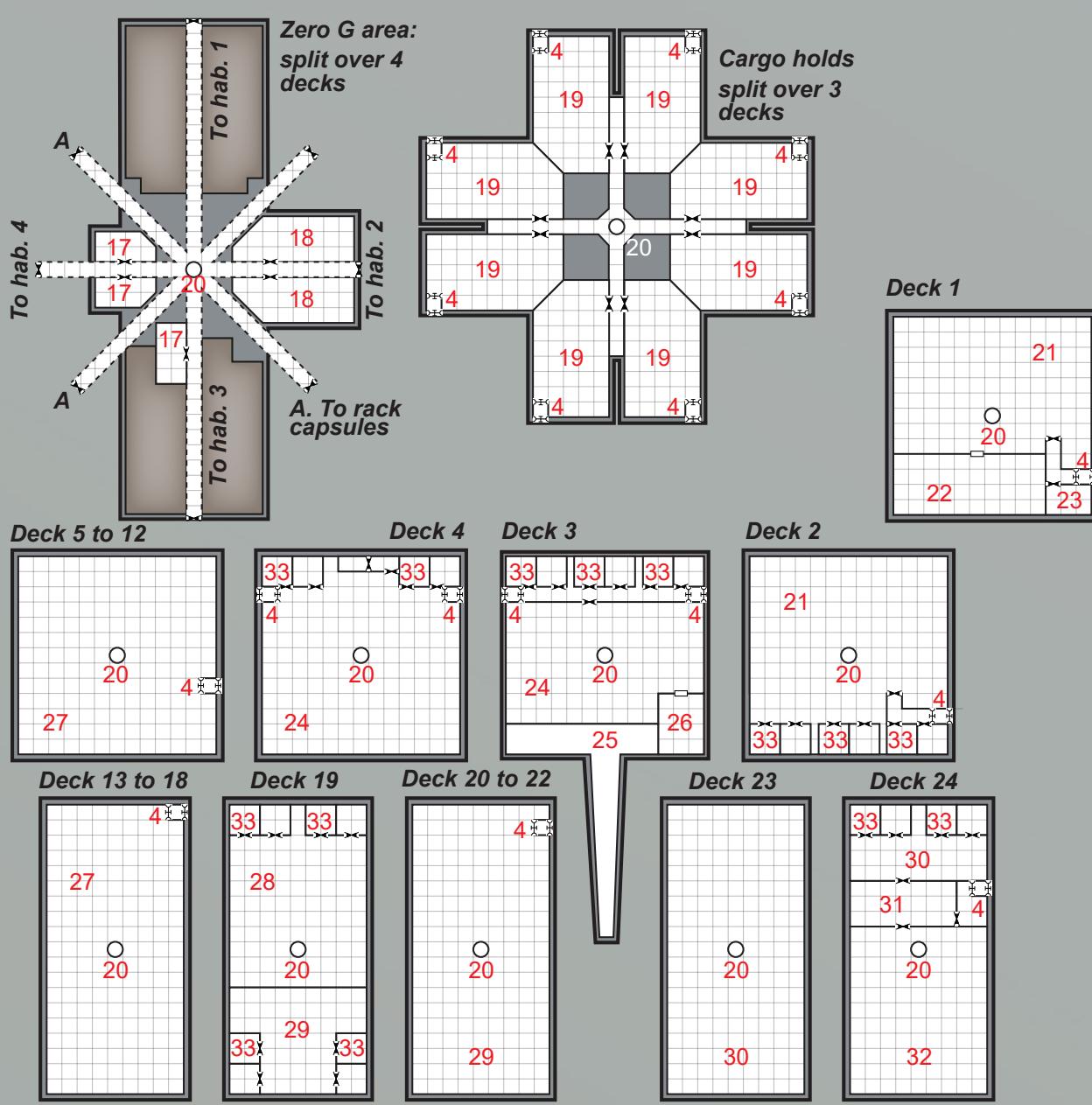
RICHELIEU BATTLESHIP

TL12		Tons	Cost (MLv)
Hull	5,000-ton Synthetic Spaceframe	—	120
Hull Features	Advanced, Radiation Shield	—	125
Armour	6	240	48
Reaction Drive	Nuclear OMS Thruster (advanced)	135	300
Stutterwarp	2.44 ly/day, Tac Speed: 2, System Speed: 1.57 AU per day	11.55	57.74
Power Plant	Fusion Reactor (Power 1,500)	100	120
Emergency Power	Power 48 (24 hours)	1.2	1.2
Fuel Tanks	Nuclear OMS Thruster (6 Burns) Subcraft Fuel 2 refills	270 88.08	— —
Radiators	AHDR (oversized), Capacity 3,000	150	75
Bridge	Large with Neural Link, Encrypted Comms, Laser Comm	120.5	43.5
Computer	Primary: Core/60fib Secondary: Core/50fib	—	22.5
Sensors	Very Advanced Military, Advanced Military, DSS, GADS, Telescope	20.16	24.37
Weapons	LL98 Laser Arrays (surface mounts) x30, in 15 Batteries of 2	60	25
Screens	Rating: 6	6	15
Targeting	TTA (-1) x15	75	7.5
Ordnance	Combat Drones: Ritage-2 x20	44	62.44
Drone Controllers	10	2.5	5
Tactical Action Centre	26 Personnel (command, gunners x31, remote operators x10, sensor operators x2, flight controllers x2)	44	4.4
Systems	Under Spin: Armouries x2, Automeds x20, Common Areas (50 tons), Exercise Equipment for 150, Freshers x30, Galley for 50, Medbays x10, Operating Theatre (for 8 patients), Recovery Ward (for 8 patients), Simple Freshers x50, Ship's Lockers x10 Zero-G: Autofactory, Briefing Rooms x10	636.5	168.1
Remotes	Repair Remotes x50, Voir Sensor Drones x2	28.6	38.34
Sub-Craft	Martel Gunboats x6 in Hangar, EDA-60 Combat Landers x9 in Berth	1,314	331.68
Airlocks	Standard Airlocks x48	—	—
Accommodations	Under Spin: Small Staterooms x280, Rack Capsules (for 2) x525, Staterooms x3	1,097	160.75
Artificial Gravity	Type: Double Hull (1640 tons Under Spin) Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes	90.2	18.04
Software	Archive, Auto-Repair/2, Battle System/1, Electronic Warfare/1, Fire Control/3, Intellect	—	57.8
Life Support Consumables	60 days for 2,383 people	285.96	—
Cargo		171.28	—
Total: MLv1650.52			

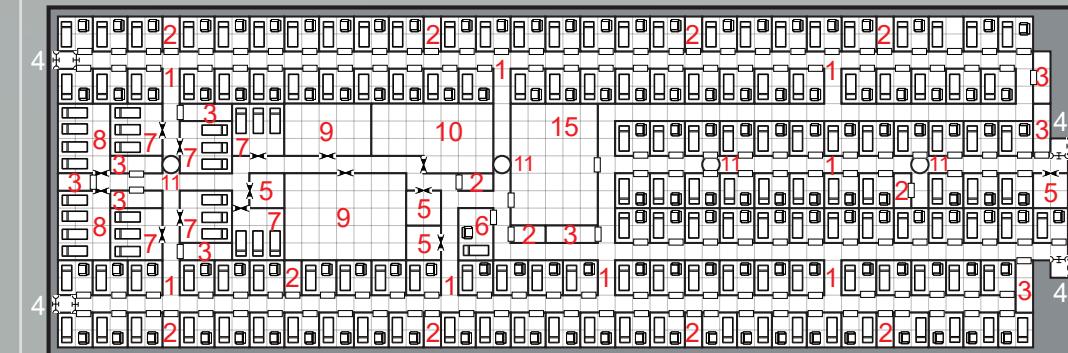
	Chair		Machinery
	Acceleration Chair		Cold Berth Unit
	Bunk		Access Panel
	Lift		Hatch
	Iris Valve		Hatch Floor
	Iris Valve Floor		Hatch Ceiling
	Iris Valve Ceiling		Hatch Both
	Iris Valve Both		Fresher Unit

LEGEND

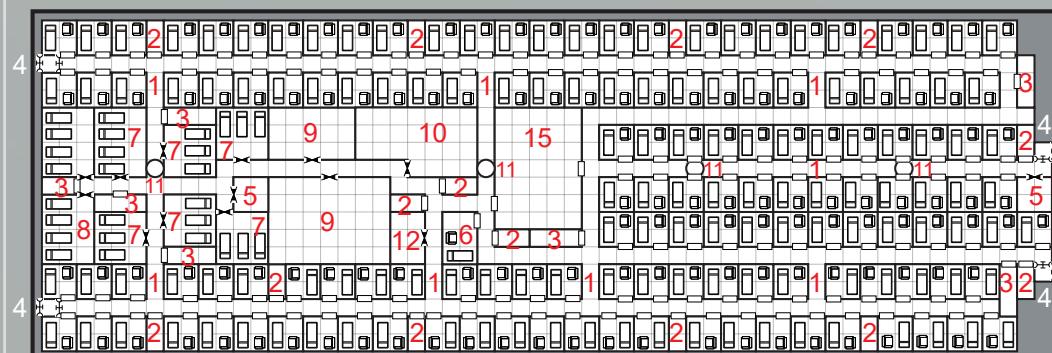
- Small staterooms
- Simple fresher
- Fresher
- Airlock
- Ship's locker
- Stateroom
- Automed
- Medical bay
- Exercise space
- Galley
- Access tube
- Armoury
- Recovery ward
- Operation theatre
- Common area
- Rack capsules
- Briefing rooms
- Autofactory
- Cargo hold
- Spin habitat access tube



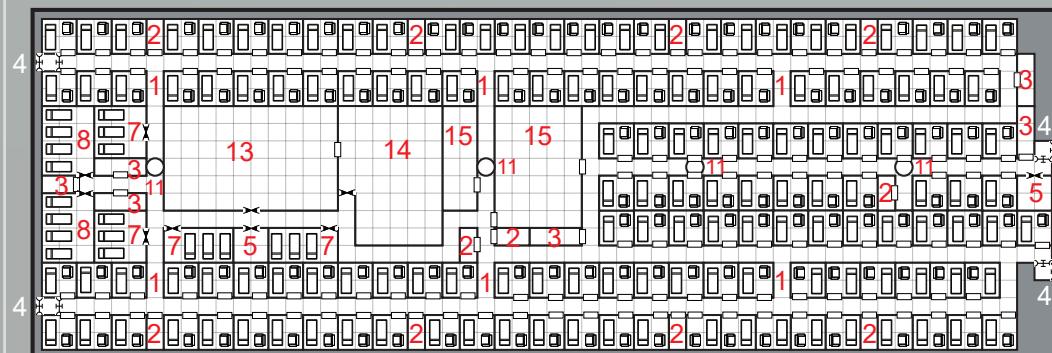
RICHELIEU BATTLESHIP



Habitat 1

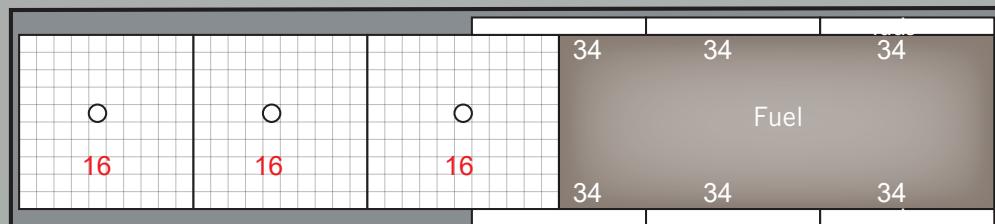
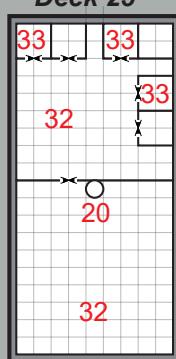


Habitat 2 & 4



Habitat 3

Rack capsules



Deck 25

- | | |
|----------------------|------------------------------|
| 21. Bridge | 28. Drones |
| 22. Sensors | 29. Life support consumables |
| 23. Drone controller | 30. Power plant |
| 24. TTA | 31. Stutterwarp |
| 25. Radiators | 32. Reaction drive |
| 26. Screens | 33. LL98 |
| 27. Berths | 34. Radiators |

ÂNESSE (DONKEY) FLEET REPLENISHMENT SHIP

NATION: France

FIRST EXAMPLE LAID DOWN: 2212

MANUFACTURER: L'Étage heavy Space Systems

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 638 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France,

NUMBER IN SERVICE: 6

LENGTH: 90 m

WIDTH: 32 m

LAUNCH MASS (FULLY FUELLED): 30,000 tons

POWER PLANT: Darlan Power Systems K-90 90 MW

Fission Reactor

REACTION DRIVE: L'Étage Orion-VI 30 MW Nuclear

OMS Thruster, 30,000 tons thrust

STUTTERWARP: L'Étage JM3 30 MW Gen II Jerome-Effect Stutterwarp

In the late 2190s, as a new design of stutterwarp was becoming available and an era of exploration loomed, the French high command recognised that they would have to be able to support fleets far from home. Many

designs were examined but committees could not agree. Finally, in the 2220s, as French forces jostled with the Hanoverian Germans in what would become the Joi system, the Space Navy bypassed the design committees and struck a deal with L'Étage Heavy Space Systems, manufacturers of the successful Anjou merchant vessel. The initial sole-sourced contract called for a single UNREP (UNDERway REplenishment) vessel to be built based on an enlarged version of the Anjou hull. The design appears to be three Anjou hulls attached together at several connections. Engineering is located in the so-called primary hull, which is an almost stock Anjou, to which the other two hulls were added. The peculiar design prevents installation of a conventional spin hab but a pair were added at right angles to the hull, one on either side of the ship. The configuration gave rise to the nickname 'Paddleboat', which is universally loathed by Ânesse crews.

The Ânesse was effective enough that the admiralty ordered several more. The design would go on to form the basis for French UNREP designs for much of the following century, until the Dromadaire (Dromedary) started to replace it after the Central Asian War.

Crew	Passengers	Hull Points	Signature: 6
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x57, Small Craft Techs, Life Support Techs x3, Electronics Techs x3, Gunners x16, Security Officers x5, Small Craft Pilots x9, Medics x5 Comfort Rating: +1	—	300	Base Reflected: 6 Base Radiated: 3

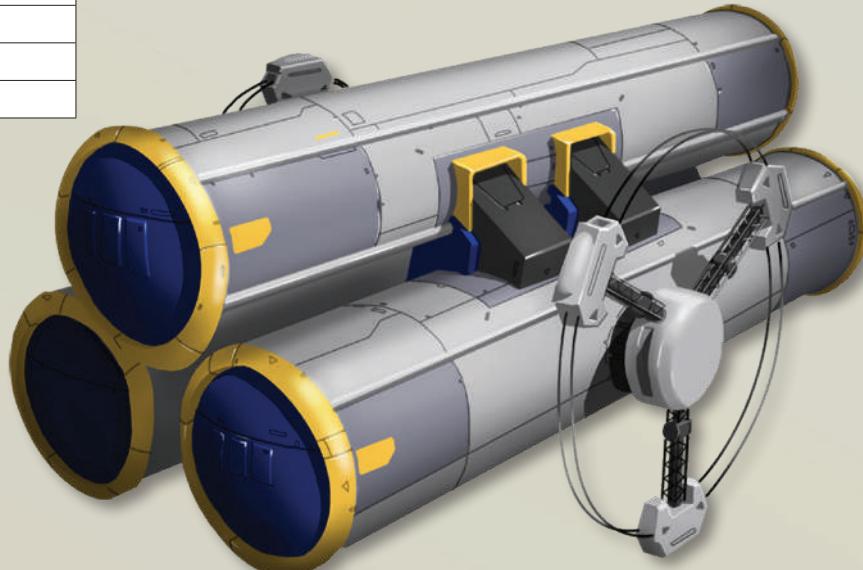
Power Requirements

Power

Basic Ship Systems	30
Reaction Drive	300
Stutterwarp	300
Sensors	10
Weapons	120
Screens	70

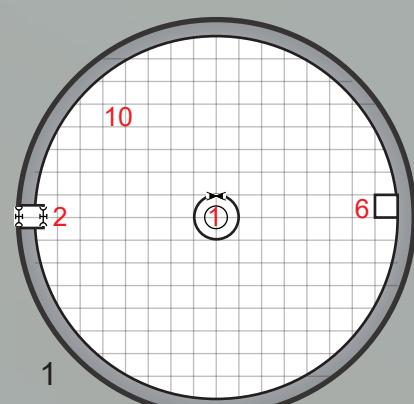
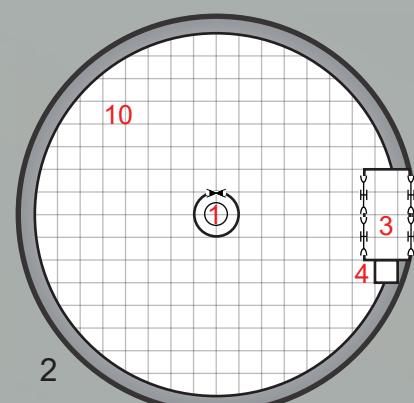
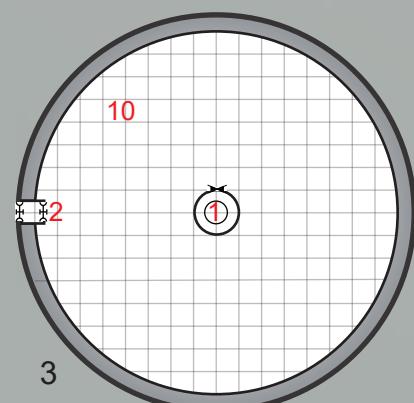
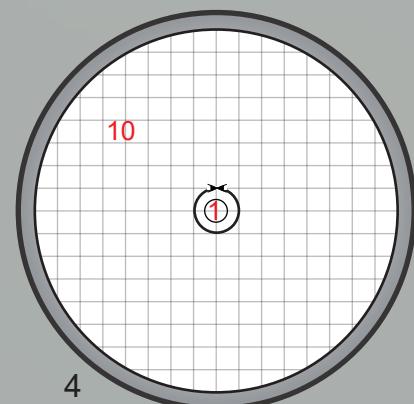
Running Costs

Maintenance Cost: Lv28325/month
Purchase Cost: MLv339.9

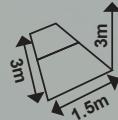
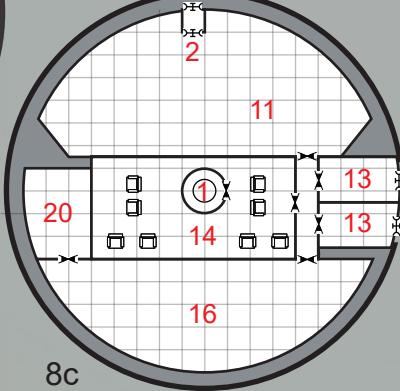
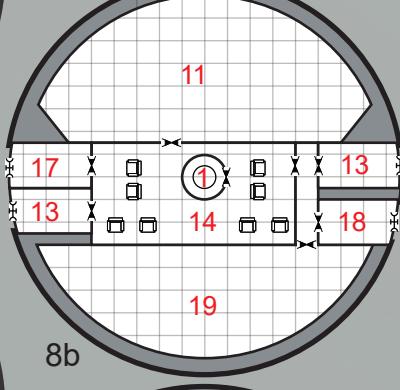
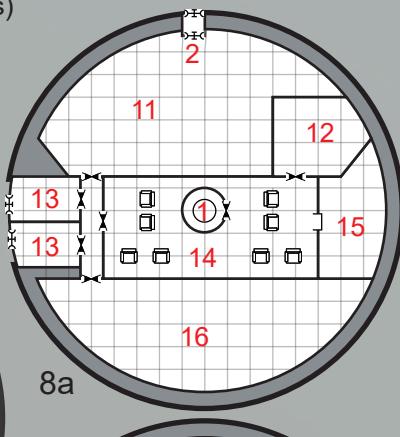
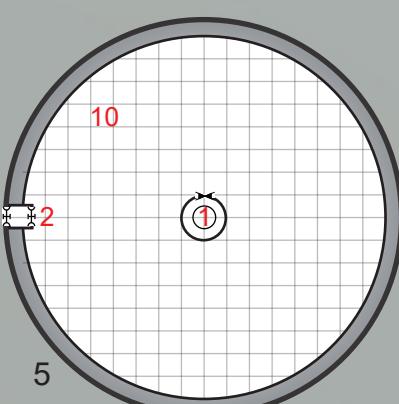
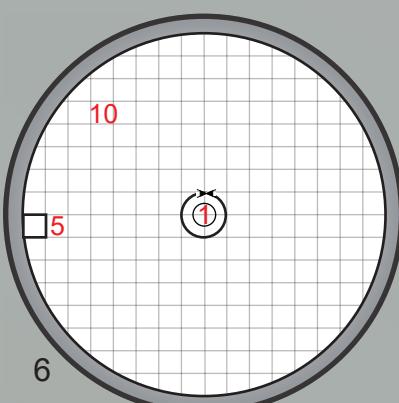
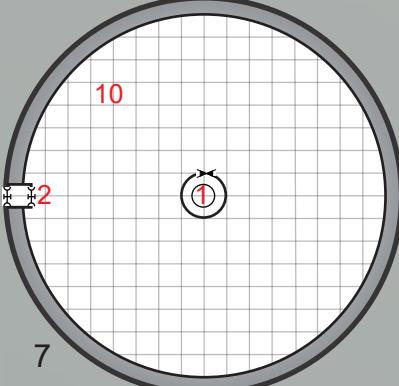


ANESSE (DONKEY) FLEET REPLENISHMENT SHIP

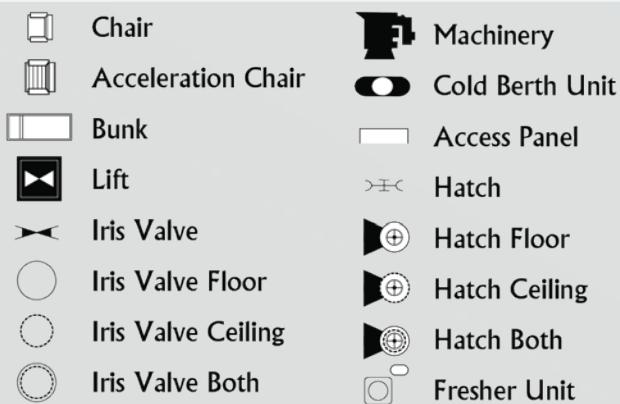
TL11		Tons	Cost (MLv)
Hull	3,000-ton Aligned Crystal Steel Spaceframe	—	60
Reaction Drive	Nuclear OMS Thruster	90	90
Stutterwarp	1.7 ly/day, Tac Speed: 2 System Speed: 1.10 AU/day	8.66	17.32
Power Plant	Fission Reactor (Power 900)	112.5	45
Emergency Power	Power 30 (48 hours)	7.2	7.2
Fuel Tanks	Nuclear OMS Thruster (6 Burns)	180	—
	Subcraft Fuel 1 refill	13.9	—
Radiators	Conventional, Capacity 900	90	4.5
Bridge	Standard, Encrypted Comms	60	16
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	10.5
Sensors	Basic Military, DSS, GADS, Telescope	6.87	12.33
Weapons	LL98 (surface mounts) x8 with UTES	24	12.4
Screens	Rating: 4	4	7
Targeting	UTES (+1)	—	—
Systems	Under Spin: Armouries x2, Safety Locker, Ship's Locker, Simple Freshers x10, Exercise Equipment for 40, Medbays x6, Workshop, Zero-G: Autofactory, UNREP x10, Workshop Cargo Arms x2, Loading Arms x2, Manipulators x2,	109	48.2
		6	1.45
Drones and Remotes	Inspection Remotes x5, Repair Remotes x10	2.475	2.4975
Sub-Craft	R40 Pinnace in Berth, WorkerBees x3 in Berths	48.95	9.905
Airlocks	Standard Airlocks x30, Large Cargo Airlocks x2	24	0.16
Accommodations	Under Spin: Small Staterooms x130, Staterooms x8	292	1
Artificial Gravity	Type: Spin Capsules (117 tons Under Spin) Radius: 90 m, 2 RPM, Gravity: 0.4 G, Spin Up/Down: 24 minutes	17.55	8.78
Software	Archive, Intellect, Manoeuvre, Auto-Repair/1, Stutterwarp Control	—	6.68
Life Support Consumables	100 days for 130 people	26	—
Cargo	875.4 tons cargo, 1,000 tons fuel	1,875.4	1
Total: MLv339.9			

**LEGEND**

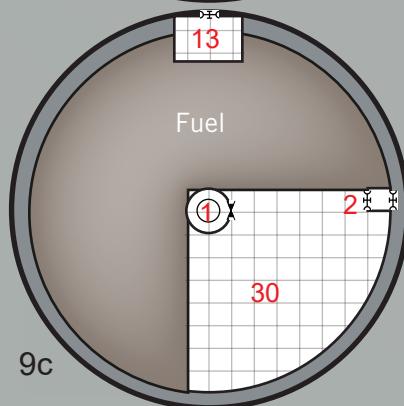
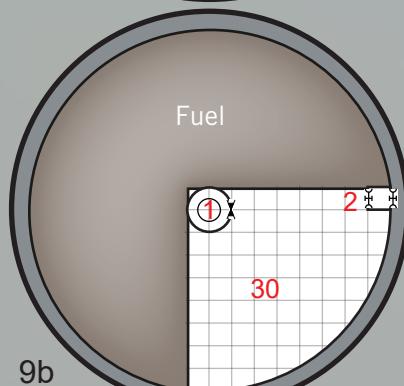
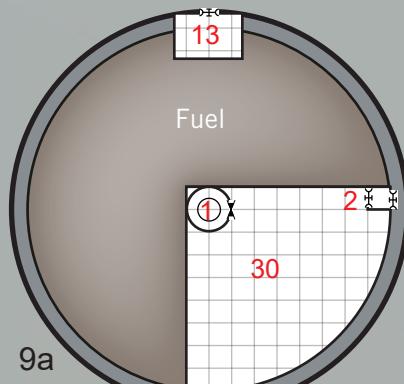
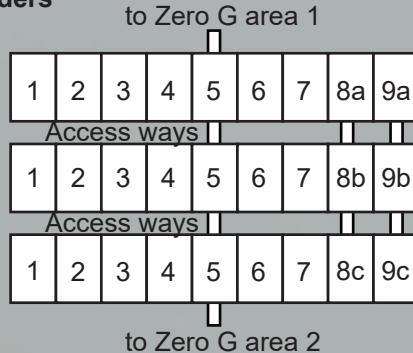
- 1. Ship's access tube
- 2. Airlock
- 3. Cargo airlock (external cylinders)
- 4. Loading arms (external cylinders)
- 5. Manipulators (external cylinders)
- 6. Cargo arms (external cylinders)
- 7. Stateroom
- 8. Simple fresher
- 9. Small staterooms
- 10. Cargo hold
- 11. Power plant
- 12. Emergency power
- 13. LL98
- 14. Bridge
- 15. Sensors
- 16. Berths
- 17. Remotes and drones



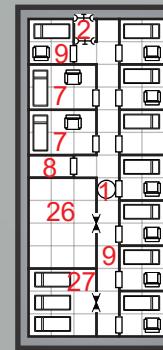
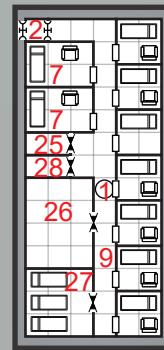
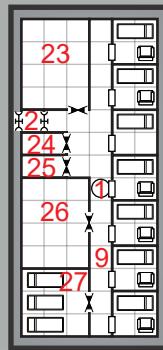
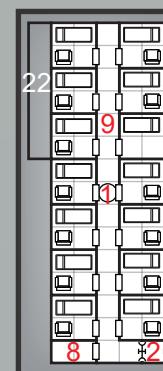
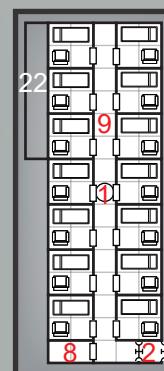
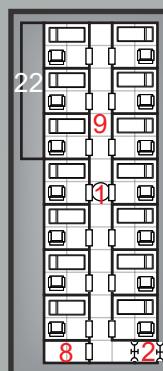
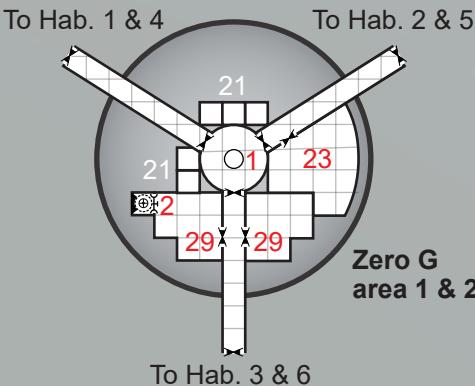
ANESSE (DONKEY) FLEET REPLENISHMENT SHIP



Cylinders



- 18. Screens
- 19. Life support consumables
- 20. Stutterwarp
- 21. UNREP
- 22. Radiators
- 23. Workshop
- 24. Ship's locker
- 25. Armoury
- 26. Exercise room
- 27. Medbay
- 28. Safety locker
- 29. Autofactory
- 30. Reaction drive



VARIANTS

During their lifetimes, many spacecraft go through different owners, repurposed to different tasks. A few of the more common hull types are easily modified and see the most variants. Many of these are armed as privateers or Q-ships to deter piracy and raids. On the French Arm, more distant colonies are converting freighters and mining craft to defensive vessels as fear of what the Kaebers will do next continues to build.

NECESSITE-CLASS AUXILIARY CRUISER (CONVERTED ANJOU)

NATION: France

FIRST EXAMPLE LAID DOWN: 2289

MANUFACTURER: L'Étage heavy Space Systems

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 298 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: France, United Kingdom, Independent

NUMBER IN SERVICE: 120+

LENGTH: 90 m

WIDTH: 16 m

RING DIAMETER: 30 m

LAUNCH MASS (FULLY FUELLED): 10,000 tons

POWER PLANT: Royce Excalibur 12 MW

Magnetohydrodynamic Turbine, plus secondary

L'Étage RG270 27 MW MHD turbine

REACTION DRIVE: L'Étage B70 Magneto-Plasma OMS

Thruster, 10,000 tons thrust

STUTTERWARP DRIVE: L'Étage J-60 6 MW Gen II

Jerome-Effect Stutterwarp Drive

Escalating tensions on the French Arm in the wake of the Central Asian War led the French Admiralty, newly arrived in power after the coup in France, to look into arming civilian vessels as auxiliary cruisers and Q-ships. While piracy is rare on the French Arm, conditions after the end of the war made it far more likely. They turned to one of the premier large shipbuilders in France, L'Étage Heavy Space Systems, to come up with alternatives.

The Necessite conversion turns the old Anjou into something with the firepower of a cruiser, albeit rather slow and poorly protected. To make up for the lack of armour, a screen is installed instead, which does help the survivability of the design.

The modification adds eight LL-88 laser arrays, two Type-17 PDCs, TTAs for all, four remote object controllers and a bay for 10 drones, either the Ritage-1 or Ritage-2. Many are also equipped with berths for Assegai fighters, replacing the large cargo airlocks with launch ports.

Due to the chronic shortage of the Ritage-2 drone, even in government service, these ships are usually only armed with the Ritage-1.

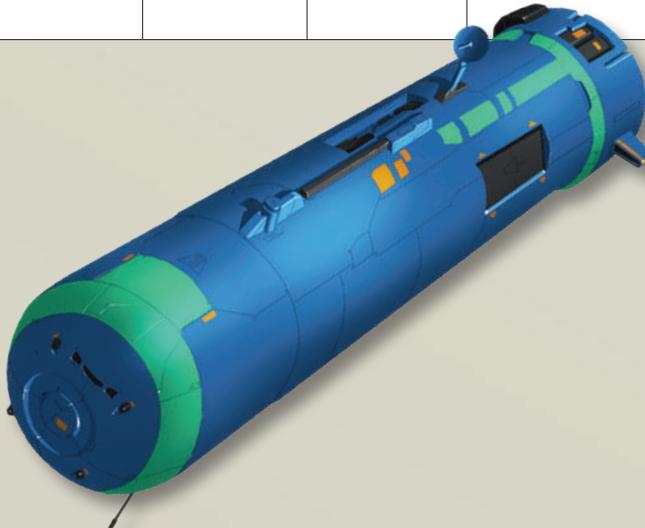
Total cost for the modification is MLv106, taking 137 days to complete.

Crew	Passengers	Hull Points	Signature: 7
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x4, Small Craft Techs x4, Life Support Techs x2, Electronics Techs x2, Administrators x2, Cargo Handlers x2, Ship's Troops x6, Fighter Pilots x4 Comfort Rating: +0	—	100	Base Reflected: 7 Base Radiated: 3 +1 to Signature when screen active

Running Costs

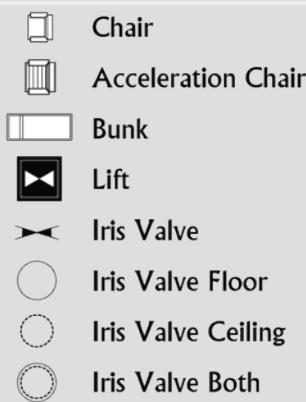
Maintenance Cost: Lv15299/month
Purchase Cost: MLv183.59

Power Requirements	Power
Basic Ship Systems	10
Reaction Drive	100
Stutterwarp	60
Sensors	12
Drone Controllers	8
Weapons	130
Screens	70

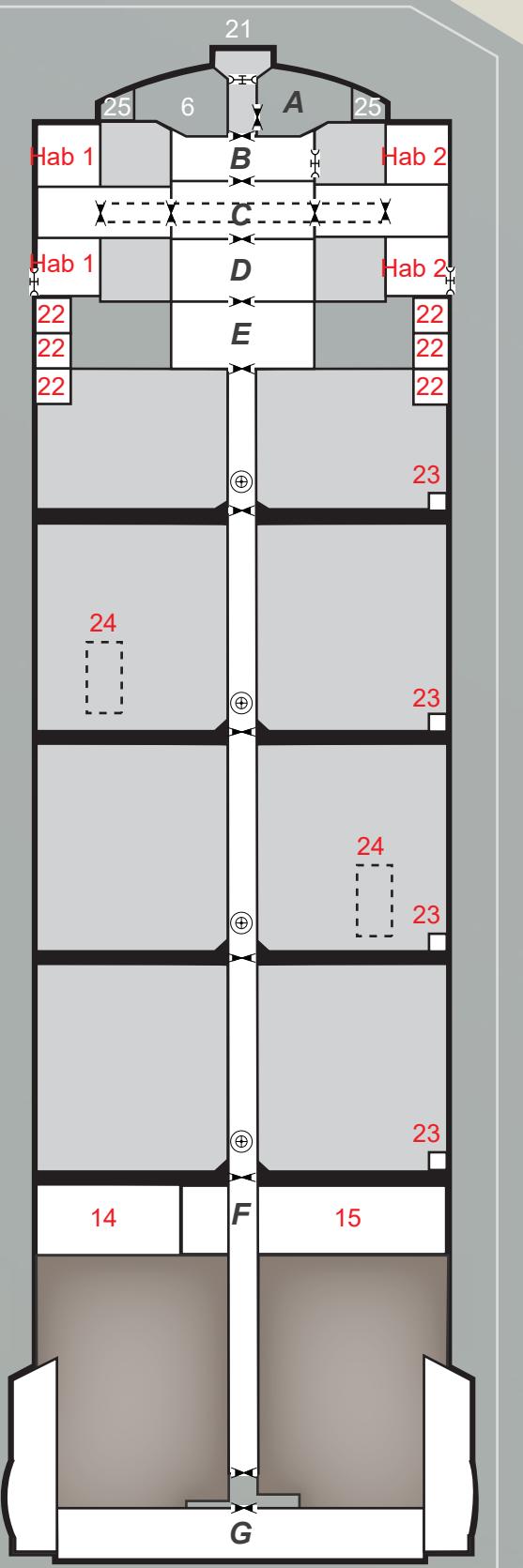
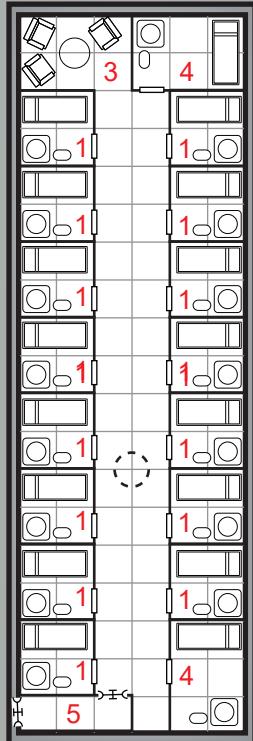
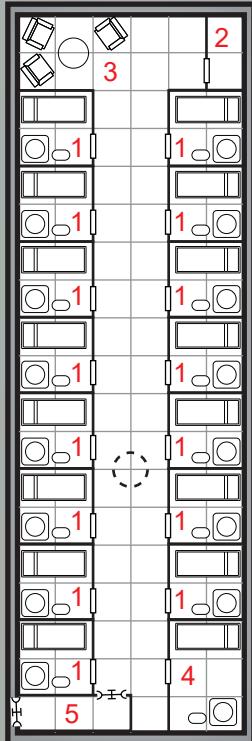


NECESSITE-CLASS AUXILIARY CRUISER

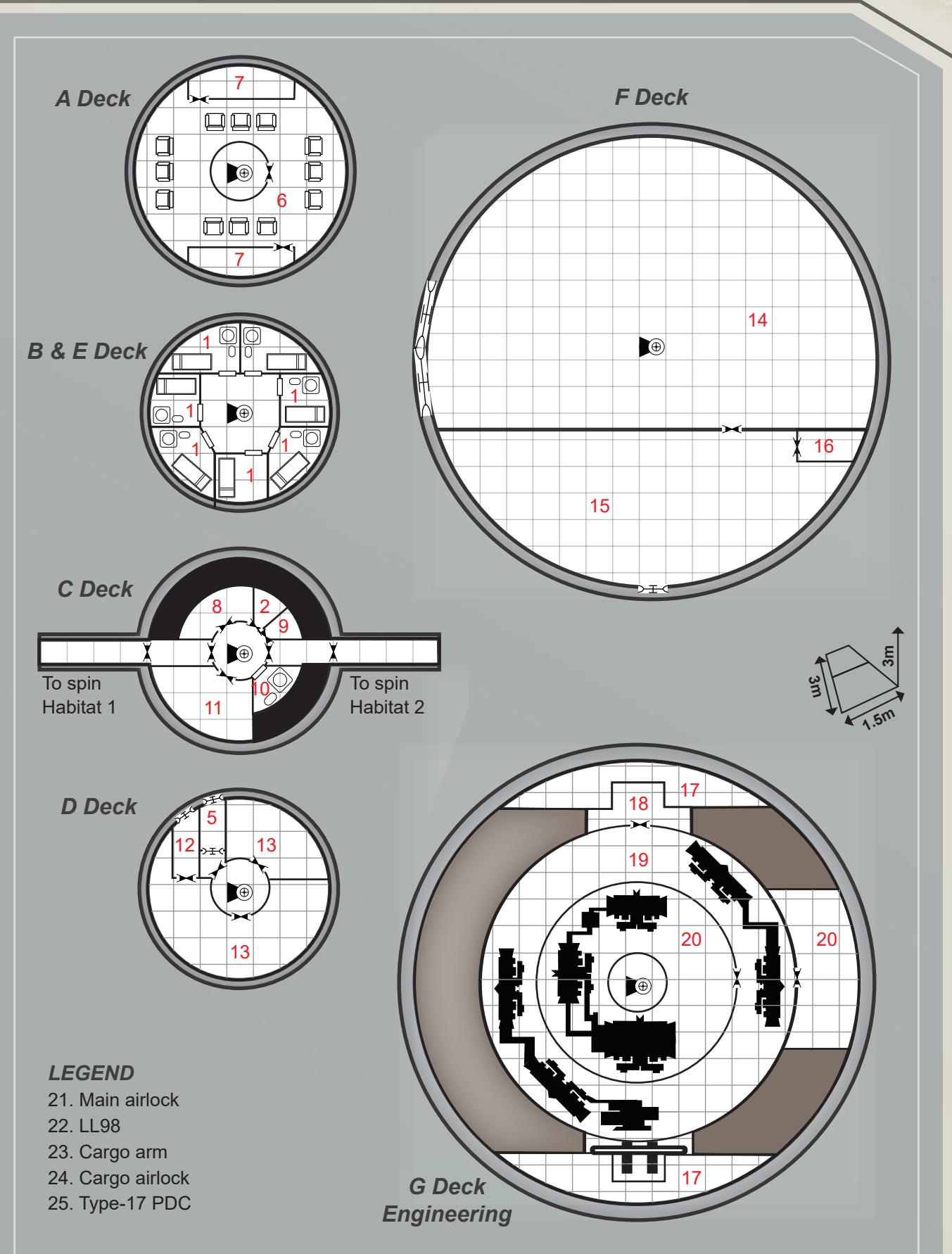
TL10/TL11		Tons	Cost (MLv)
Hull	1,000-ton Aligned Crystal Steel Spaceframe	—	20
Hull Features	Radiation Shield	—	5
Reaction Drive	OMS Thruster	30	12
Stutterwarp	1.1 ly/day, Tac Speed: 1	4.14	5.18
Power Plant	MHD Turbine (Power 120), Secondary MHD Turbine (Power 220, 24 Hours)	48.75	12.19
Emergency Power	Power 10 (24 hours)	2.4	2.4
Fuel Tanks	OMS Thruster (4 Burns)	120	—
	Power Plant (2 weeks)	60	—
	Secondary Power Plant (24 hours)	0.36	—
	Subcraft Fuel 2 refills	7.98	—
Radiators	Conventional, Capacity 10	39	1.95
Bridge	Standard, Encrypted Comms	20	6
Computer	Primary: Computer/25 Secondary: Computer/10 Tertiary: Computer/5	—	10.19
Sensors	Basic Nav Array, Basic Military, DSS, GADS	5.41	6.22
Weapons	LL98 x8 in 2 batteries of 4, Type-17 PDC x2	20	10.6
Screens	Rating: 4	4	7
Targeting	TTA (-1) x2, Fire Control/1 (+1)	10	1
Ordnance	Combat Drones: Ritage-2 x20	38.5	62.385
Drone Controllers	4	1	2
Systems	Under Spin: Exercise Equipment for 8 at a time, Safety Lockers x2, Ship's Locker, Simple Freshers x2, Common Areas (10 tons), Library, Galley for 6, Automated Zero-G: Exercise Equipment for 7 at a time, Ship's Locker, Safety Locker, Simple Freshers x4	29.25	4.26
	Cargo Arms x4	2	0.4
Drones and Remotes	Repair Remotes x5	0.55	1.055
Sub-Craft	Assegai Fighters x4 in Berths	88	20.92
Airlocks	Standard Airlocks x10, Small Cargo Airlocks x2	8	0.08
Accommodations	Under Spin: Staterooms x5, Small Staterooms x28	104	6.7
	Zero-G: Small Staterooms x14		
Artificial Gravity	Type: Double Hull (108.31 tons Under Spin)	5.44	1.09
	Radius: 15 m, 3 RPM, Gravity: 0.15 G, Spin Up/Down: 9 minutes		
Software	Archive, Auto-Repair/1, Intellect, Manoeuvre, Stutterwarp Control	—	8.44
Life Support Consumables	30 days for 59 people	3.54	—
Cargo		322.18	—
Total: MLv189.59			

**LEGEND**

- | | |
|--------------------|------------------------------|
| 1. Small stateroom | 11. Life support consumables |
| 2. Safety locker | 12. Repair drones |
| 3. Common area | 13. TTA |
| 4. Stateroom | 14. Berths |
| 5. Airlock | 15. Drones & controller |
| 6. Bridge | 16. Screens |
| 7. Sensors | 17. Radiators |
| 8. Emergency power | 18. Stutterwarp |
| 9. Ship's locker | 19. Reaction drive |
| 10. Fresher | 20. Power plant |



NECESSITE-CLASS AUXILIARY CRUISER



SABRE WEAPONS MODULE**NATION:** Freihafen**FIRST EXAMPLE LAID DOWN:** 2296**MANUFACTURER:** Rheinmetall Freihafen**PRODUCTION STATUS:** In Production**CONSTRUCTION TIME:** 34 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Freihafen, Independents, Elysia**NUMBER IN SERVICE:** 24+**LENGTH:** 21.73 m**WIDTH:** 10.87 m**LAUNCH MASS (FULLY FUELLED):** 270 tons**POWER PLANT:** Rheinmetall V042 4.2 MW MHD Turbine

The Sabre is an aftermarket module produced by the Freihafen subsidiary of Rheinmetall in response to a growing need for armed civilian ships on the French Arm. The initial impetus was the general chaos following the War of German Reunification and subsequent Declaration of Independence by Freihafen. However, the Kaefer invasion of Aurore led to the

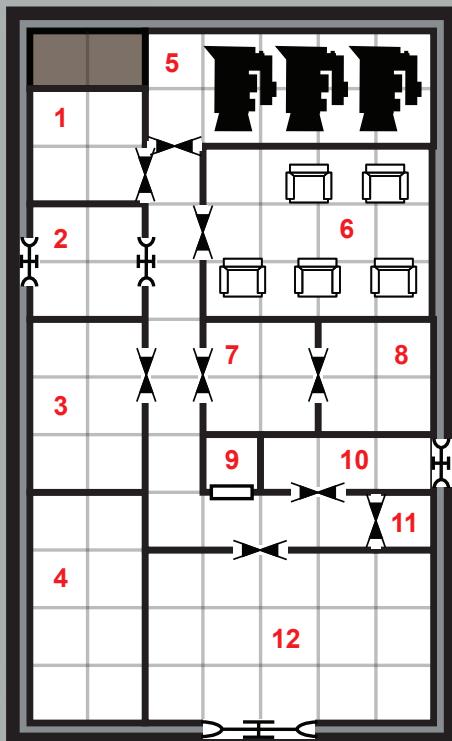
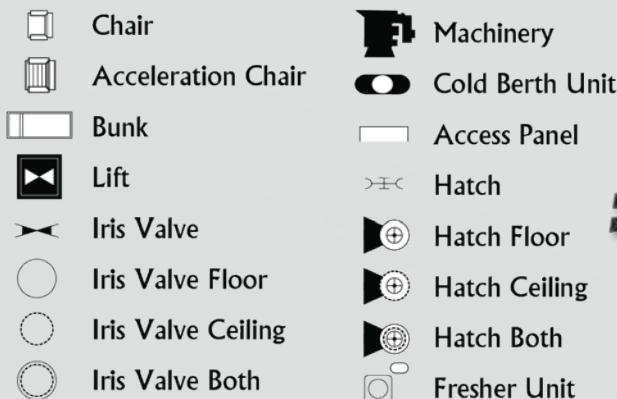
module's popularity. The Sabre is designed to fit in the cargo bay of a Thorez courier. The upper port-side cargo door is removed and the module installed in half the bay. The other half of the bay can still be used for cargo, although the Sabre does block half of the loading ramp. The starboard-side upper door is still usable for overhead loading.

The module includes an MHD turbine for power, fuel, an LL-98 laser array, a light TTA for the laser, upgraded sensors, a small Tactical Action Centre and provisions to carry and launch up to four Ritage-1 or Ritage-2 combat drones. The module also contains a screen generator, as a stock Thorez is unarmoured. While it has its own power supply, it relies on the Thorez to provide life support.

The news that the independent nation of Elysia, on Joi, managed to obtain at least two of these modules has triggered a diplomatic response from France to the government of Freihafen. They still regard Elysia as a rebel colony rather than an independent nation.

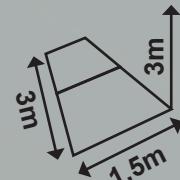
TL11		Tons	Cost (MLv)
Hull	36-ton Synthetic Spaceframe	—	0.864
Power Plant	MHD Turbine (Power 42)	4.2	1.68
Fuel Tanks	Power Plant (12 hours)	0.756	—
Radiators	Conventional	4.2	0.21
Computer	Primary: Computer/10	—	0.08
Sensors	Basic Military	2	4
Weapons	LL98 array (retractable)	3	1
Screens	Rating: 2	2	3
Targeting	Light TTA (+0)	2	0.25
Ordnance	Combat Drones: Ritage-1 x2	7.7	3.2508
Drone Controllers	2	0.5	1
TAC	6 Personnel (command, drone controllers x2, gunner, sensor techs x2)	6	6
Systems	Safety Locker, Simple Fresher	0.25	0.055
Airlocks	Standard Airlock	2	0.02
Software	Archive, Intellect, Fire Control/1	—	3
Cargo		1.39	—
Total:		MLv16.92	

SABRE WEAPONS MODULE



LEGEND

1. Sensors
2. Airlock
3. LL98
4. Radiators
5. Power plant
6. Tactical action centre
7. Screens
8. TTA
9. Ship's locker/safety locker
10. Cargo hold
11. Drone controller
12. Ritage-1



Crew	Passengers	Hull Points	Signature: +1
TAC Crew only. All other crew requirements met by carrying vessel.	—	3	Adds +1 to Radiated Signature of carrying vessel when in operation

Running Costs

Maintenance Cost: Lv2262/month
Purchase Cost: MLv27.14

Power Requirements

Sensors	5
Drone Controllers	4
Weapons	12.5
Screens	20

SPACE STATIONS

Almost every world in human space has orbital infrastructure, from a simple modular orbital terminal to solar power sats and orbital mirrors. Some worlds are circled by large ring stations, homes to hundreds or thousands of people. Space-based factories, laboratories, observatories and even private homes dot the sky above the Core worlds and most colonies.

STATION MODULES

Pre-built station modules are available for many purposes. While 30 tons is the most common size for station modules, they can vary in size between 10 and 100 tons. Modules are manufactured in orbit around an industrial world and then moved by tug, like the Comercant, to their new location. Old modules are often sold to Belters or Tinkers for use as habitats.

HAB MODULE

NATION: Germany
FIRST EXAMPLE LAID DOWN: 2150
MANUFACTURER: Koenig Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 6 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Various
NUMBER IN SERVICE: 1,000s
LENGTH: 20.45 m
WIDTH: 10.23 m
LAUNCH MASS (FULLY FUELLED): 225 tons
POWER PLANT: None (requires power input of 30 KW)

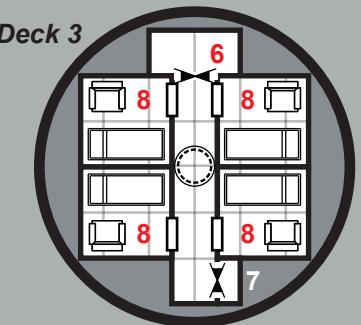
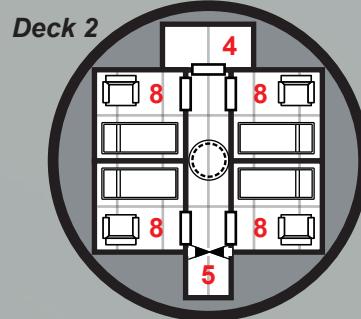
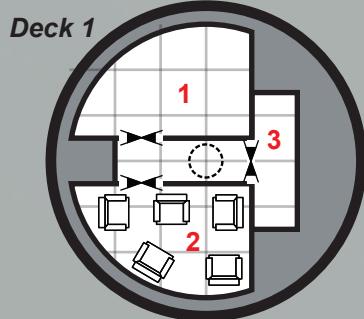
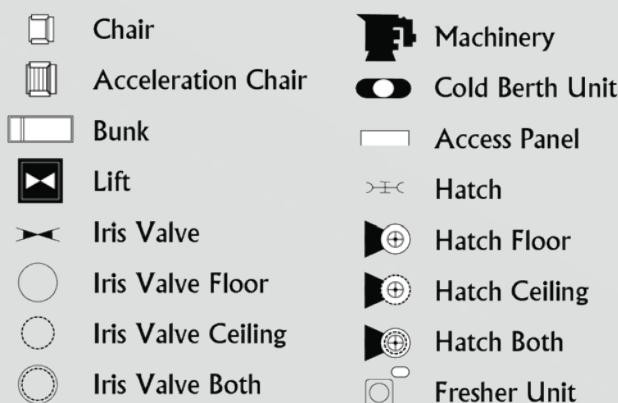
The habitat, or 'hab' module, contains all the necessities for life in space, save for power and heat management. That is managed by another module, with the hab simply requiring an input of power.

TL11	Tons	Cost (MLv)
Hull 30-ton Synthetic Spaceframe	—	0.72
Hull Features Radiation Shield	—	0.15
Computer Primary: Computer/5fib	—	0.0225
Systems Exercise Equipment for 4, Galley for 5, Library, Safety Locker, Simple Fresher	13.25	1.805
Accommodations Small Staterooms x8	16	0.8
Software Archive	—	—
Life Support Consumables 30 days for 8 people	0.48	—
Cargo	0.27	—
Total: MLv3.15		

Crew	Passengers	Hull Points	Signature: 1
Comfort Rating: -1	—	3	Base Reflected: 1 Base Radiated: 0

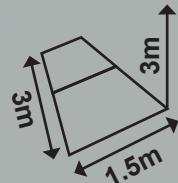
Running Costs	Power Requirements	Power
Maintenance Cost: Lv263/month Purchase Cost: MLv3.15	Basic Systems	0.3

HAB MODULE



LEGEND

- | | |
|-------------------|-----------------------------|
| 1. Exercise room | 5. Small stateroom |
| 2. Galley | 6. Life support consumables |
| 3. Library | 7. Safety locker |
| 4. Simple fresher | 8. Cargo |



LAB MODULE

NATION: Germany

FIRST EXAMPLE LAID DOWN: 2150

MANUFACTURER: Koenig Aerospace

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 19 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Various

NUMBER IN SERVICE: 1,000+

LENGTH: 20.45 m

WIDTH: 10.23 m

LAUNCH MASS (FULLY FUELLED): 225 tons

POWER PLANT: None (requires power input of 530 KW)

A lab module can be used for a variety of purposes, from chemical or biological research to small-scale production of high-grade diamond computing components or high-grade pharmaceuticals. The labs would be configured at the time of install to their specific purpose.

Like other modules, it requires an input of power and some method to handle waste heat.

Crew	Passengers	Hull Points	Signature: 1
Researchers x 4, Technicians x4	—	3	Base Reflected: 1 Base Radiated: 0

Running Costs

Maintenance Cost: Lv792/month
Purchase Cost: MLv9.45

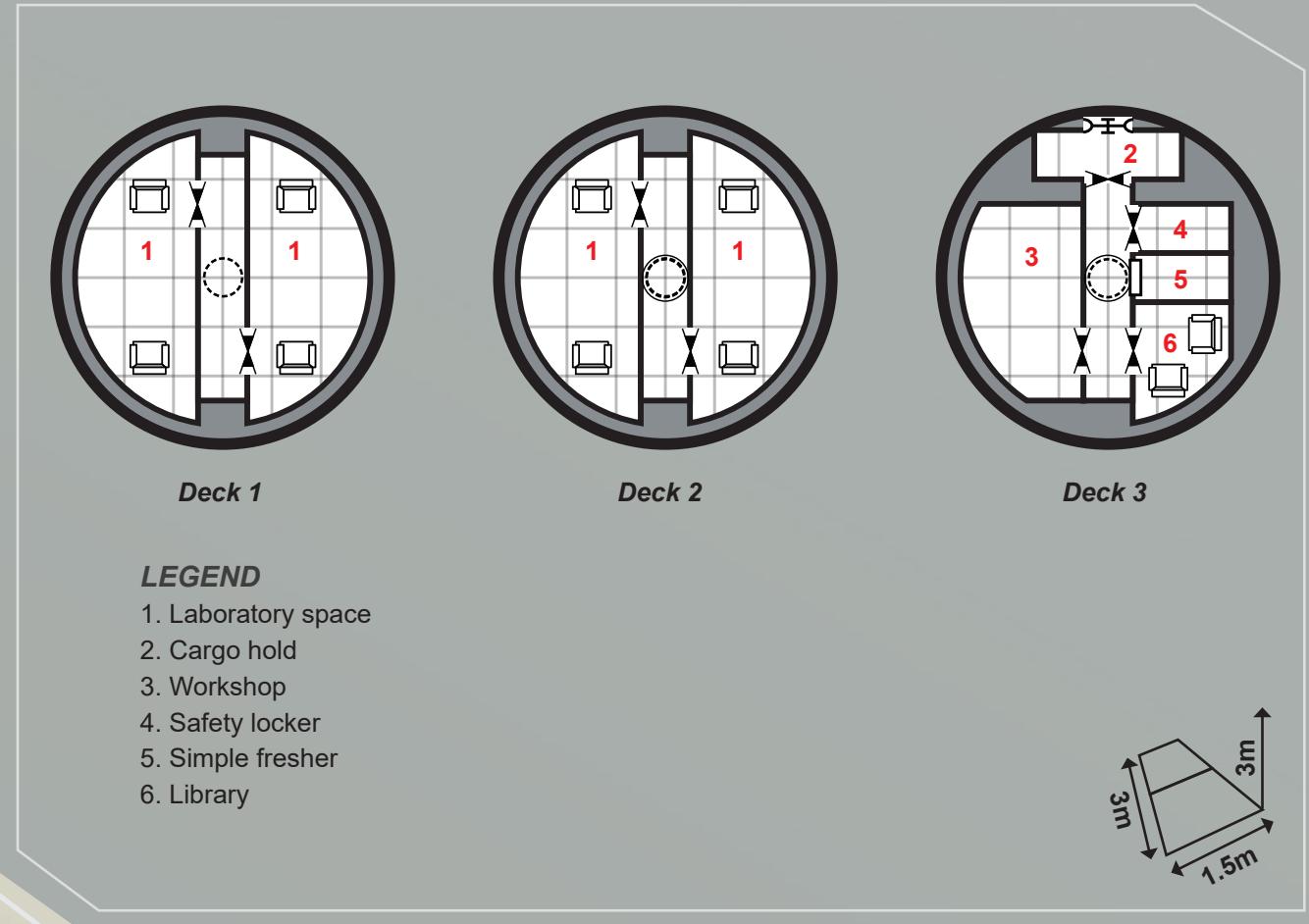
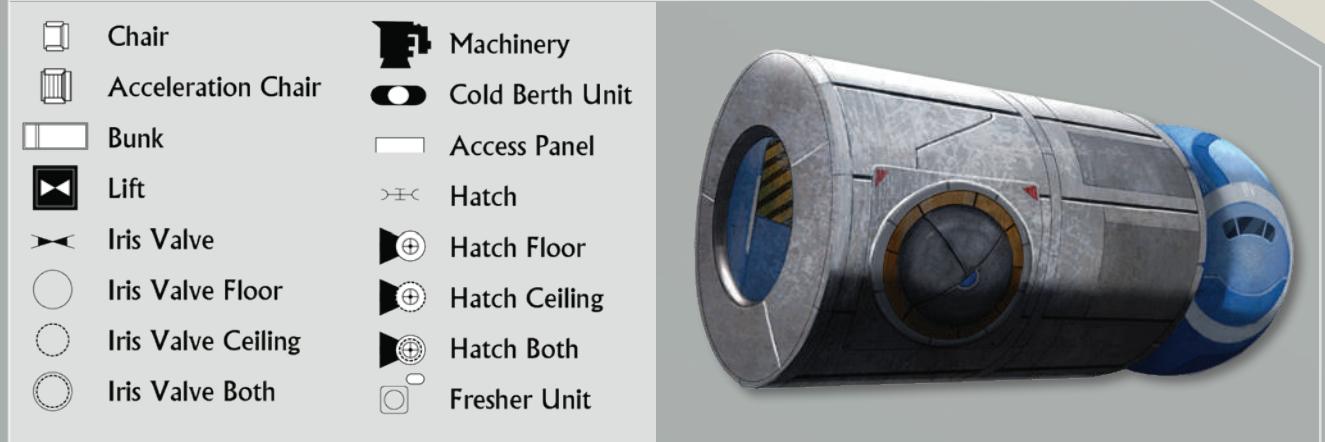
Power Requirements

Basic Systems
Workshop

Power

0.3
5

TL11		Tons	Cost (MLv)
Hull	30-ton Synthetic Spaceframe	—	0.72
Hull Features	Radiation Shield	—	0.15
Computer	Primary: Computer/10	—	0.08
Systems	General Lab Spaces x4, Workshop, Library, Safety Locker, Simple Fresher	28.25	8.555
Software	Archive, Intellect	—	1
Cargo		1.75	—
Total: MLv9.45			



SYSTEM MODULE

NATION: Germany

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Koenig Aerospace

PRODUCTION STATUS: Out of Production

CONSTRUCTION TIME: 27 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Various

NUMBER IN SERVICE: 1,000+

LENGTH: 20.45 m

WIDTH: 10.23 m

WINGSPAN: 0 m

LAUNCH MASS (FULLY FUELLED): 225 tons

POWER PLANT: None (requires power input of 1.43 KW)

The system module provides power and systems management for up to 1,000 tons of station. It includes a small control deck for maintenance and command personnel, along with the storage and control of both maintenance and inspection drones.

TL11		Tons	Cost (MLv)
Hull	30-ton Synthetic Spaceframe	—	0.72
Hull Features	Radiation Shield	—	0.15
Bridge	Control Deck	1.5	0.1
Computer	Primary: Computer/15 Secondary: Computer/10	—	1.08
Sensors	Basic Nav Array	1	0.1
Drone Controllers	1	0.25	0.5
Systems	Safety Locker, Ship's Locker, Simple Fresher Service Equipment for 1,000 tons of station	0.75 25	0.155 12.5
Drones and Remotes	Inspection Remote, Repair Remotes x2,	0.495	0.4995
Software	Archive, Auto-Repair/1, Intellect, Operations	—	6
Cargo		1.01	—
Total: MLv19.62			

Crew	Passengers	Hull Points	Signature: 1
Technician	—	3	Base Reflected: 1, Base Radiated: 0

Running Costs

Maintenance Cost: Lv1635/month

Purchase Cost: MLv19.62

Power Requirements

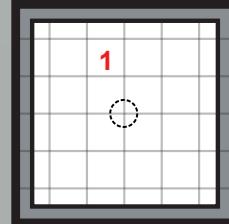
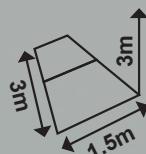
Basic Ship Systems	0.3
System Management	10
Sensors	2
Drone Controllers	2

Power

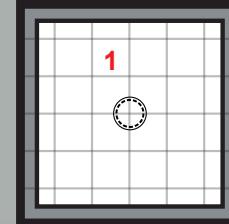


LEGEND

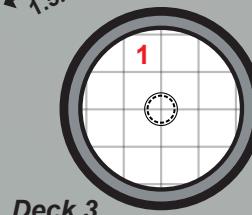
1. Service equipment
2. Drone controller
3. Safety locker
4. Cargo hold
5. Ship's locker
6. Bridge
7. Remotes
8. Sensors
9. Simple fresher



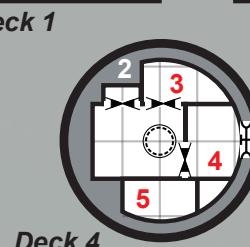
Deck 1



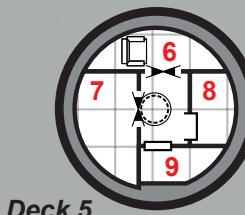
Deck 2



Deck 3



Deck 4



Deck 5

FACTORY MODULE

NATION: Germany
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Koenig Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 33 Days
SERVICE STATUS: In Service
FLEETS OF SERVICE: Various
NUMBER IN SERVICE: 1,000+
LENGTH: 22.51 m
WIDTH: 11.26 m
LAUNCH MASS (FULLY FUELLED): 300 tons
POWER PLANT: None (requires power input of 2.6 MW)

The autofactory is a larger module, as the standard autofactory itself would take up an entire 30-ton module. On some entirely-automated factories, they are built that way, with all servicing required to be performed externally. Autofactory modules are some of the most commonly seen, with entire complexes of them in orbit around many worlds. The autofactory is designed to produce one type of goods and will continue to do so as long as it is supplied with raw materials. It can be reconfigured to produce something different, unlike old-style industrial facilities that needed to retool to produce new goods.

TL11	Tons	Cost (MLv)
Hull	—	0.96
Hull Features	—	0.2
Computer	—	0.08
Systems	38.25	16.055
Software	—	1
Cargo	1.75	—
Total: MLv16.46		

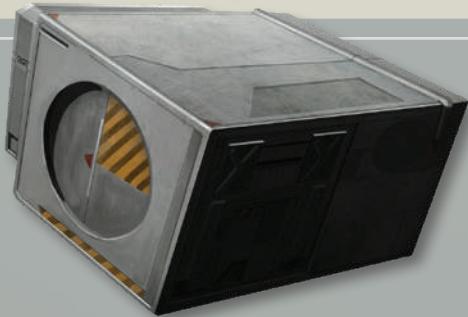
Crew	Passengers	Hull Points	Signature: 1
Mechanic	—	4	Base Reflected: 1, Base Radiated: 0

Running Costs

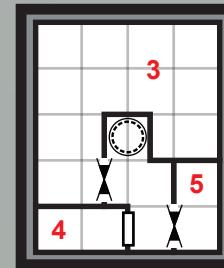
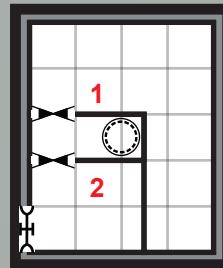
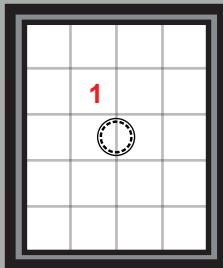
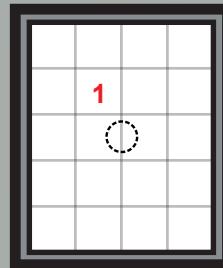
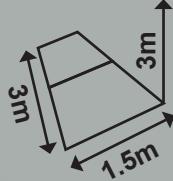
Maintenance Cost: Lv1377/month
Purchase Cost: MLv16.46

Power Requirements

Basic Ship Systems	0.4
Autofactory	20
Workshop	5

**LEGEND**

1. Autofactory
2. Cargo hold
3. Workshop
4. Simple fresher
5. Safety locker



Deck 1

Deck 2

Deck 3

Deck 4

WEAPONS MODULE

NATION: France
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Koenig Aerospace
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: 48 Days
SERVICE STATUS: In Service

FLEETS OF SERVICE: Various
NUMBER IN SERVICE: 8
LENGTH: 24.25 m
WIDTH: 12.12 m
MASS (FULLY FUELLED): 375 tons
POWER PLANT: 7 MW MHD Turbine

TL11		Tons	Cost (MLv)
Hull	50-ton Synthetic Spaceframe	—	1.2
Hull Features	Radiation Shield	—	0.25
Power Plant	MHD Turbine (Power 70)	7	2.8
Fuel Tanks	Power Plant (24 hours)	2.52	—
Radiators	70 Power to be Managed by External Systems	—	—
Computer	Primary: Computer/10 Secondary: Computer/5	—	0.0225
Sensors	Basic Military, DSS	4	5.5
Weapons	EA1000	2	2.8
Screens	Rating: 3	3	5
Targeting	Light TTA (0), Fire Control (+1)	2	0.25
Ordnance	Combat Drones: Ritage-1 x3	6.6	4.896
Drone Controllers	1	0.25	0.5
Tactical Action Centre	6 Personnel (command, gunners x2, remote operator, sensor operators x2)	6	0.6
Systems	Safety Locker, Simple Fresher	11.88	0.055
	Boosters x3 for Ritage-1	—	—
Software	Archive, Fire Control/1, Intellect	—	3
Cargo		1.78	—
Total: MLv20.71			

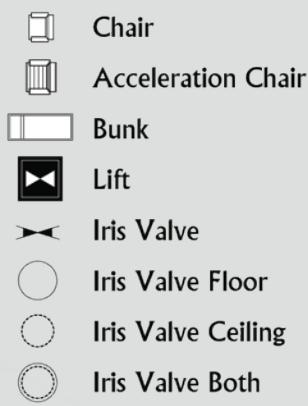
Crew	Passengers	Hull Points	Signature: 2
Commander, Gunners x2, Remote Operator, Sensor Operators x2	—	4	Base Reflected: 1 Base Radiated: 2

Running Costs

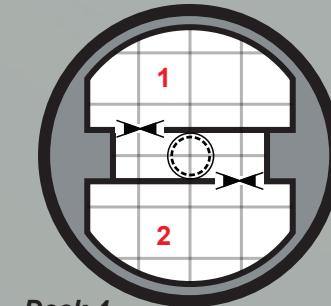
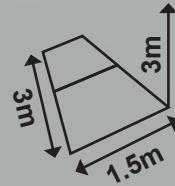
Maintenance Cost: Lv2016/month
Purchase Cost: MLv24.19

Power Requirements

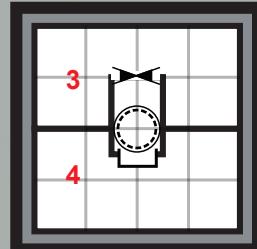
Basic Ship Systems	0.5
Sensors	5
Drone Controllers	2
Weapons	22.5
Screens	40

**LEGEND**

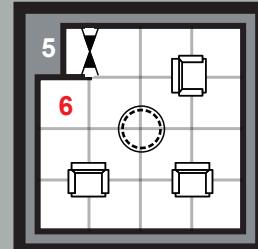
1. Screens
2. Safety locker
3. Combat drones
4. Sensors
5. Drone controller
6. Tactical action centre
7. Power plant
8. EA1000
9. Light TTA/fire control
10. Cargo hold
11. Simple fresher



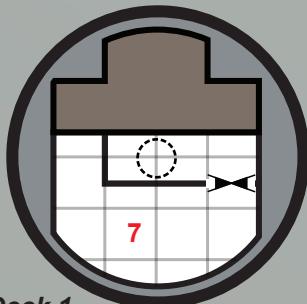
Deck 4



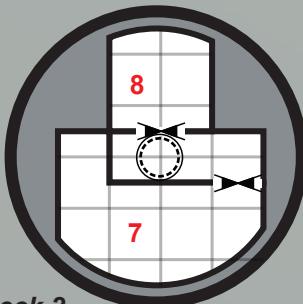
Deck 5



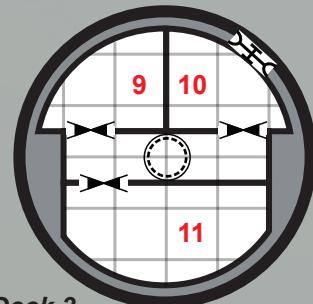
Deck 6



Deck 1



Deck 2



Deck 3

WORKSHACK**NATION:** Germany**FIRST EXAMPLE LAID DOWN:** 2293**MANUFACTURER:** Koenig Aerospace**PRODUCTION STATUS:** In Production**CONSTRUCTION TIME:** Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Germany, Freihafen, Various**NUMBER IN SERVICE:** 1,000+**LENGTH:** 61 m**WIDTH:** 40.67 m**MASS:** 1675 tons**POWER PLANT:** 5.28 MW Solar Array

A typical workshack uses several different modules connected by a truss, with a solar array to provide power for the system and radiators to deal with excess heat. This workshack includes two habitation modules, a service module, a lab module and an autofactory module.

TL		Tons	Cost (MLv)
Power Plant	Solar (Power 52.8)	6.6	3.3
Radiators	Conventional, Capacity 52.8	0.66	0.033
Modules	Habs x2, Lab Modules x2, Factory Module, Service Module	190	58.1
Connectors	5-Way, 2-Way	11	0.035
Truss		10.41	1.041
Accessories	Rail, Manipulator	0.25	0.51
Total: MLv56.019			

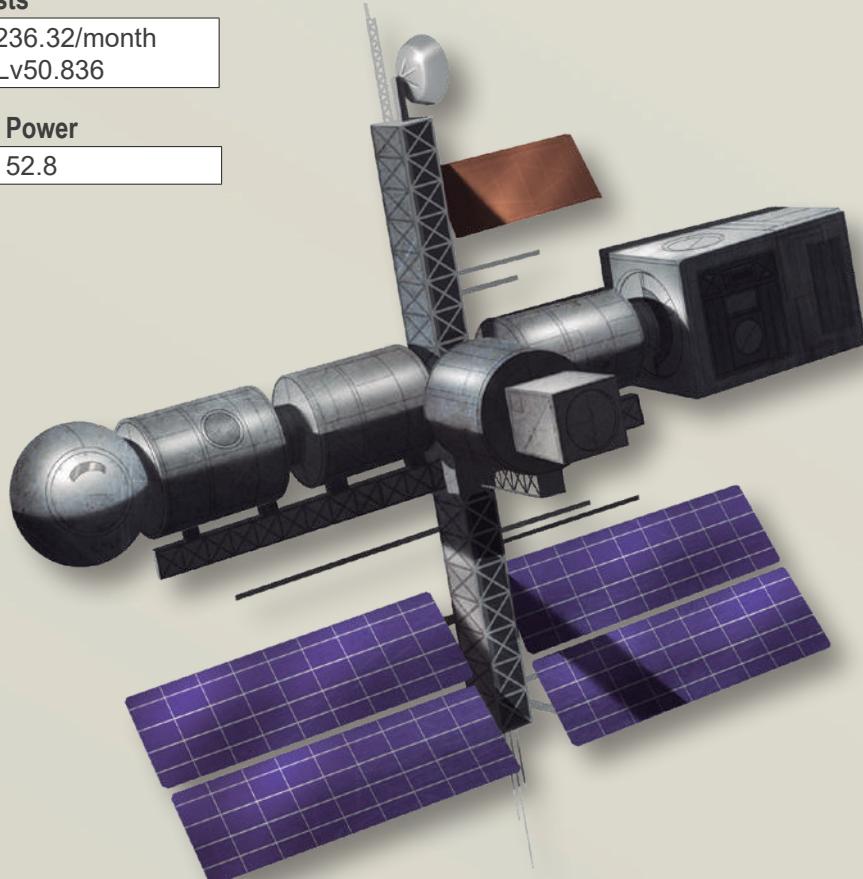
Crew	Passengers	Hull Points	Signature: 7
Lab Technicians x10, Factory Technician, Maintenance Technicians x2	—	Truss: 1 Solar Array: 0	Base Reflected: 7 Base Radiated: 2

Running Costs

Maintenance Cost: Lv4236.32/month

Purchase Cost: MLv50.836

Power Requirements	Power
Modules	52.8



AUGEREAU STATION

NATION: France

LAID DOWN: 2150

MANUFACTURER: Viridian Aerospace Engineering (now part of L'Étage Heavy Space Systems)

CONSTRUCTION TIME: 10 years

SERVICE STATUS: In Service

FLEETS OF SERVICE: France

RING RADIUS: 500 m

RING WIDTH: 20 m

RING DECK HEIGHT: 6 m (2 decks, 3 m per deck)

CORE DIAMETER: 80 m

CORE LENGTH: 200 m

STATION MASS: 270,000 tons

POWER PLANT: Hyde Power Systems PW800 80 MW

Fusion Reactor

REACTION DRIVE: Station-Keeping Thruster Array

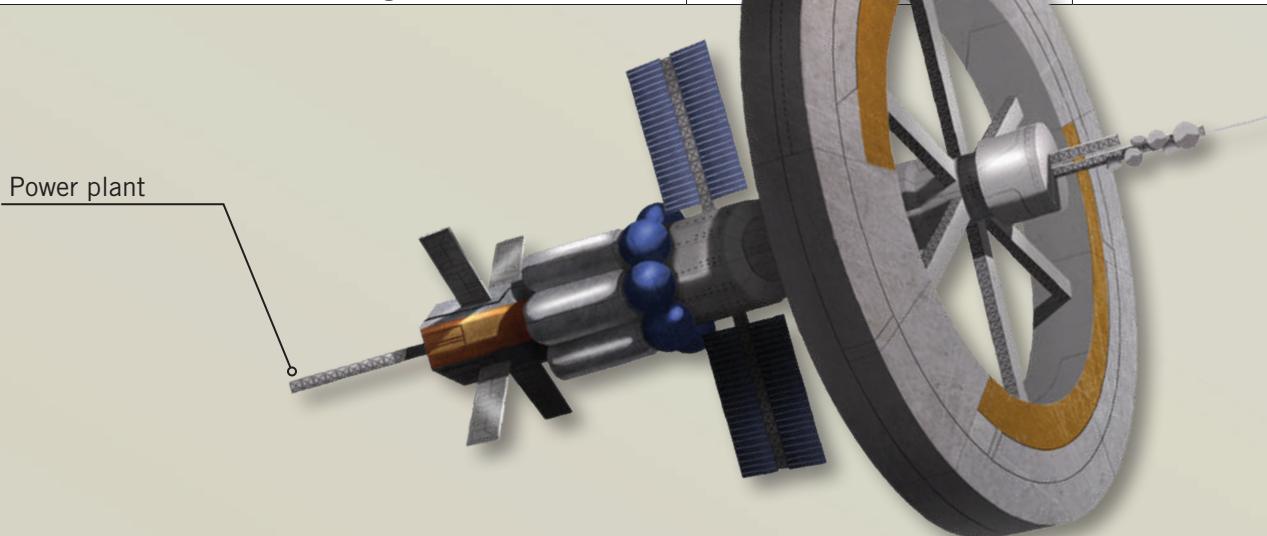
Augereau Station is a large torus orbiting the gas giant Eylau, in the Augereau system. It has a permanent population of nearly 2,000 people and the transient population of the station varies from 500 to 3,000, depending on system traffic, making it one of the busiest outposts in human space. The spin on the torus is kept to less than 0.65 RPM, generating 0.47 G at the station floor. This allows the station to be comfortable for people from a wide variety of worlds and surface gravities.

At one kilometre in diameter, the Augereau way station is really a small habitat, with significant room for growth. It includes a central non-rotating dock for small craft and can provide emergency repairs to practically any vessel. Extending away from the non-rotating core is a long spine, covered with docking points for cargo modules and small ships. At the far end of the spine is the fusion reactor, replaced in 2294 with a much newer model. The repair yards are attached to the non-rotating spine and can conduct repairs on ships up to 1,000 tons, at rates roughly double the cost of repairs at established ports.

The residential sections of the station are closed to transients, except at the express invitation of station personnel and even then such invitations have to be recorded by the station's computer, an intelligent-seeming system that answers to the name 'Majel'.

Augereau Station is defended by a flight of six Martel fighters, along with four cutters and six pinnaces for customs and local patrols. There is often a French or British destroyer or similar vessel at Augereau, half the crew on rotation through the station for rest and recreation. However, Augereau Station is effectively defenceless, no matter how many ships are stationed there.

Crew	Passengers	Hull Points	Signature: 6
<p>Captain, Bridge Officers x2, Secondary Officers x9, Flight Engineers x12, Sensor Techs x6, Systems Monitors x81, Electronics Techs x9, Gunners x22, Drone Pilots x20, Security x200, Medics x20, Stewards x10, Endurance Life Support, Mechanics x3, Professionals (hydroponics) x3, Professionals (chemistry) x3</p> <p>Transient Population: Up to 3,000</p> <p>Comfort Rating: +1</p>	—	1,885	<p>Base Reflected: 6</p> <p>Base Radiated: 0</p>



AUGEREAU STATION

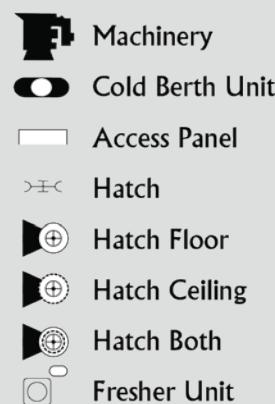
TL11		Tons	Cost (MLv)
Hull	18,850-ton Aligned Crystal Steel Spaceframe	—	377
Hull Features	Radiation Shield (cemented lunar aggregate)	171	0.857
Armour	12 (from Radiation Shield)	—	—
Emergency Power	Power 188.5 (24 hours)	22.62	22.62
Bridge	Standard, with Neural Link, Encrypted Comms, Laser Comm	60.5	14.74
Computer	Primary: Core/60fib	—	60
Sensors	Telescopes x4	10	25
Drone Controllers	20	5	10
Tactical Action Centre	34 Personnel (command, gunners x11, remote operators x20, sensor operators x2)	35	3.5
Systems	Under Spin: Medbays x100, Operating Theatre for 20 Patients, Recovery Ward for 20 Patients, Autofactories x10, Armouries x4, Briefing Room for 100, Exercise Equipment for 500, General Lab Spaces x20, Libraries x10, Simple Freshers x200, Offices x200, Workshops x20, Vaults x4 Transit System Windows (half coverage)	2,966	907.8
Airlocks	Standard Airlocks x189	—	—
Accommodations	Medium Quality Residential Units for 3,000, Low Quality Residential Units for 2,000, High Quality Residential Units for 500, Common Areas (500 tons) x4 (garden, arboretum, sports field, concert hall), Commercial Zone x2,000 (200 small shops)	13,500	1675
Artificial Gravity	Type: Spun Hull (17142.9 tons Under Spin) Radius: 500 m, 0.65 RPM, Gravity: 0.47 G, Spin Up/Down: 14.4 minutes	942.5	—
Software	Auto-Repair/2, Auto-Repair/1, Intellect, Neural Interface, Operations, Security/1	—	25
Endurance Life Support	Improved	400	80
Life Support Consumables	1 year for 4,000 people	292	—
Cargo		395	—
Total: MLv3063			

Running Costs

Maintenance Cost: Lv255250/month
Purchase Cost: MLv3063

Power Requirements

Power Requirements	Power
Basic Ship Systems	188.5
Endurance Life Support	200
Residential Support	95
Commercial Support	7.5
Workshops	100
Drone Controllers	40
Laser Comm	10

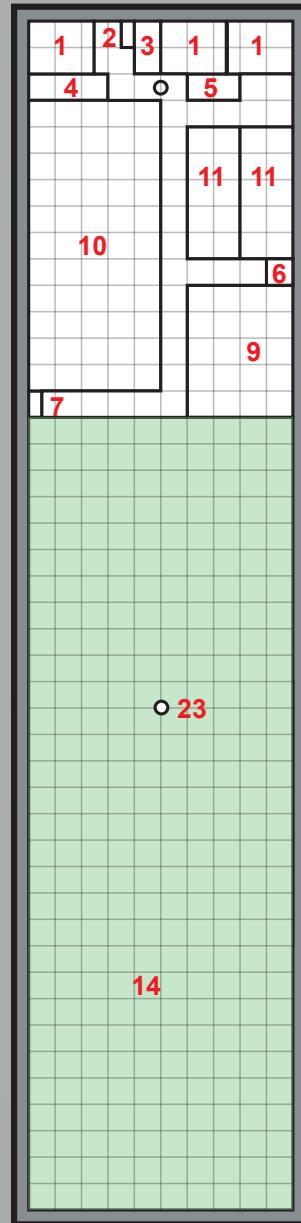


1 Square = 10 Tons

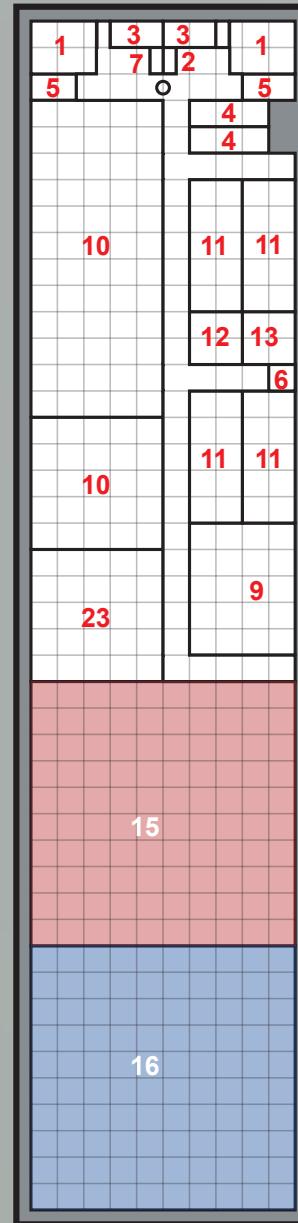
LEGEND

1. Autofactories
2. Armoury
3. Workshop
4. Offices
5. Lab spaces
6. Airlocks
7. Vault
8. Drone controller
9. Exercise areas
10. Entertainment areas
11. Medbays
12. Recovery centre
13. Operating theatre
14. Commercial zone
15. Residential units (high)
16. Residential units (medium)
17. Residential units (low)
18. Tactical action centre
19. Transit system
20. Bridge
21. Emergency power
22. Sensors
23. Access tubes to station core

Habitat 1

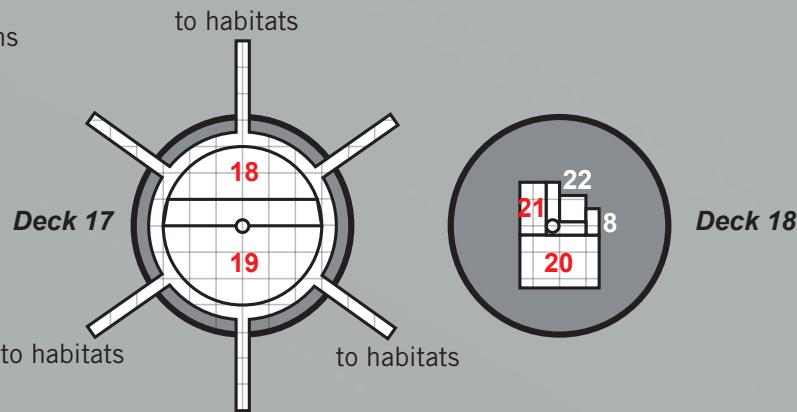


Habitat 2

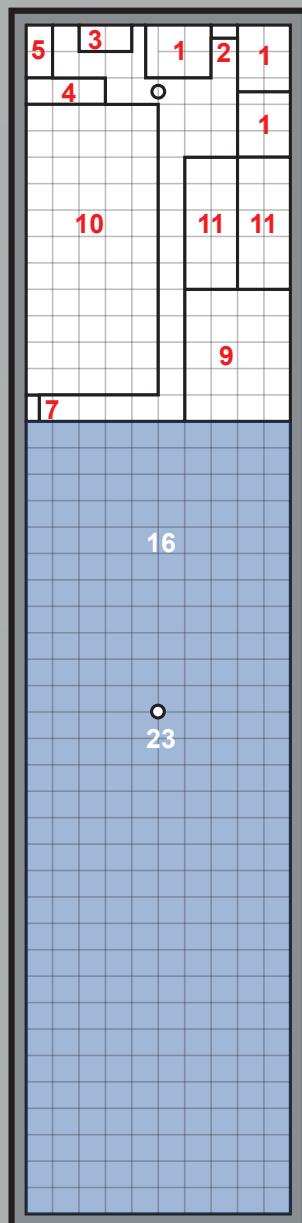


AUGEREAU STATION

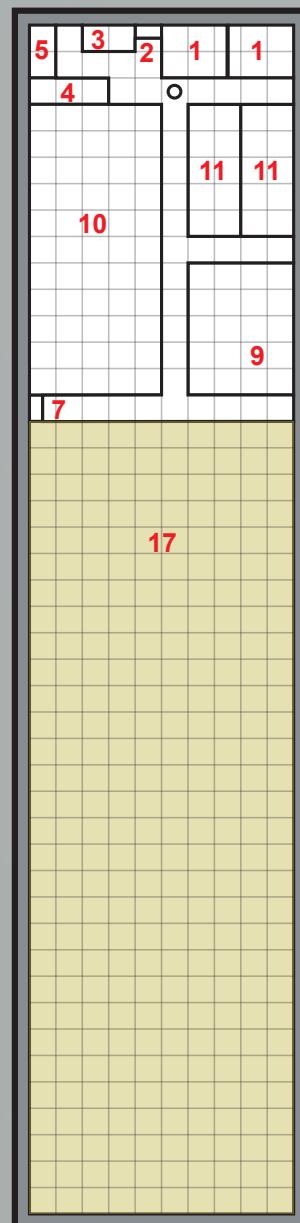
1 Square = 10 Tons



Habitat 4



Habitat 4



AUGEREAU STATION CORE

The core of Augereau is large, at more than half the size of the ring. The shipyard and fuel refinery and fuel tankage take up the vast majority of this space.

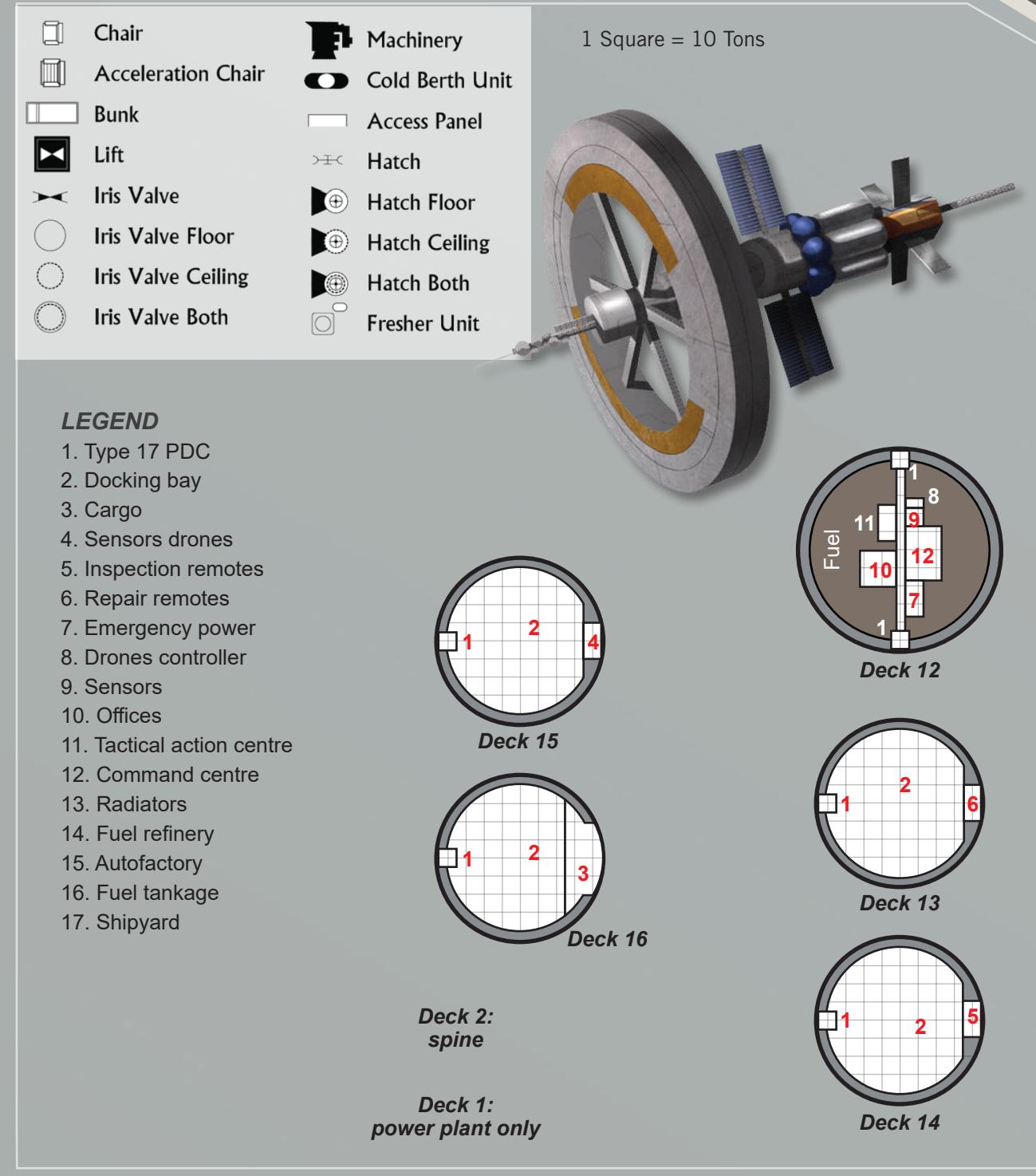
TL10		Tons	Cost (MLV)
Hull	10,000-ton Aligned Crystal Steel Spaceframe	—	200
Hull Features	Radiation Shield	—	50
Stationkeeping Thrusters	Fuel	271.429	—
Power Plant	Fusion Reactor (Power 1,800)	120	144
Emergency Power	Power 100 (24 hours)	24	24
Radiators	Conventional, Capacity 1,800	180	9
Command Centre	Standard, with Neural Link, Encrypted Comms, Laser Comm	60.5	81
Computer	Primary: Core/50fib	—	52.5
Sensors	Advanced Military, Basic Military, DSS, Telescope	9	12.5
Weapons	Type 17 PDC x10, with UTES	50	26.5
Targeting	UTES (+1), Fire Control/1 (+1)	—	—
Drone Controllers	10	2.5	5
Tactical Action Centre	24 Personnel (command, gunners x11, remote operators x10, sensor operators x2)	24	2.4
Systems	Autofactories x6, Offices x20, Simple Freshers x20 Fuel Refinery (50 tons/day) Commercial Fuel Tankage Shipyard (1,000 tons) Mirror	265 42 3,000 4,000 —	72.6 42 15 400 17.14
Drones and Remotes	Voir Sensor Drones x4, Inspection Remotes x20, Repair Remotes x50	57.2	67.68
Sub-Craft	Docking Bays (150 tons) x4	1,800	595.43
Airlocks	Standard Airlocks x100	—	—
Software	Archive, Auto-Repair/2, Fire Control/1, Intellect, Operations	—	13
Cargo		83.87	—
Total: MLv1666.82			

Crew	Passengers	Hull Points	Signature: 8
Command Centre Captain, Bridge Officers x2, Secondary Officers x9, Flight Engineers x12, Sensor Techs x6, Systems Monitors x81 Reactor Control: Power Engineers x24 Other Crew: Small Craft Techs x24, Life Support Techs x9, Electronics Techs x9, Gunners x22, Drone Pilots x20, Security Officers x20, Medics x10, Stewards x10, Fuel Refineries x3, Shipyard Crews x400 Comfort Rating: +0	—	1,000	Base Reflected: 8 Base Radiated: 4
			Combined Station Signature: 12 Base Reflected: 12 Base Radiated: 4

Running Costs

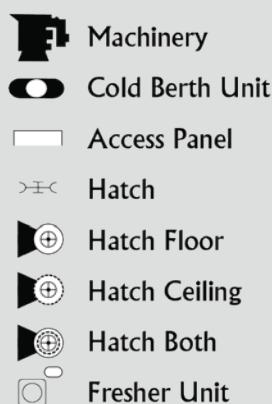
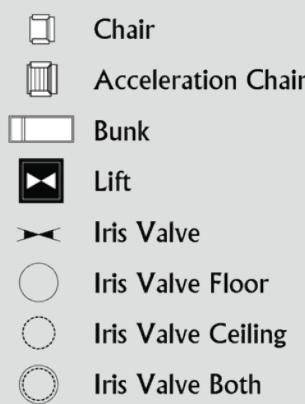
Maintenance Cost: Lv138902/month
Purchase Cost: MLv1666.82

AUGEREAU STATION CORE

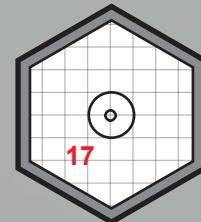


Power Requirements	Power
Basic Ship Core Systems	100
Laser Comm	10
Autofactories	120
Fuel Refinery	83
Fuel Tankage	30

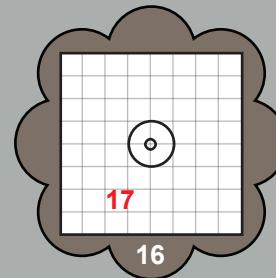
Ring Systems	784
Shipyard	400
Sensors	25
Laser Comm	10
Controllers	20
Weapons	250



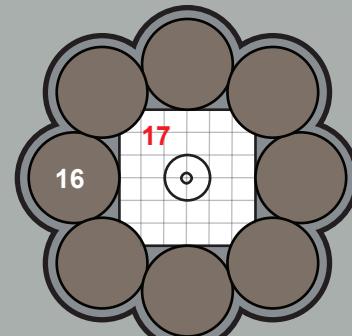
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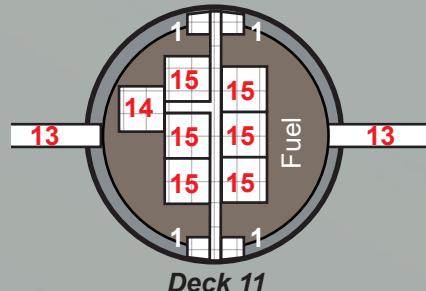
Deck 3, 4



Deck 5, 6, 7



Deck 8, 9, 10



Deck 11

LEGEND

1. Type 17 PDC
2. Docking bay
3. Cargo
4. Sensors drones
5. Inspection remotes
6. Repair remotes
7. Emergency power
8. Drones controller
9. Sensors
10. Offices
11. Tactical action centre
12. Command centre
13. Radiators
14. Fuel refinery
15. Autofactory
16. Fuel tankage
17. Shipyard

ALIEN SPACECRAFT

There are three alien civilisations on the edges of human space that have developed space travel, at least to some extent. The Pentapods and the Kaefers have developed stutterwarp, while the Sung, although highly-advanced, have not yet done so.



KAEFER SPACECRAFT

Most Kaefer vessels carry substantial amounts of reaction mass for their deep space drives, more than most human designs. The drives themselves appear to be more advanced than human designs, giving them greater fuel efficiency. This was a particular advantage in the fleet actions that took place near Aurore, when Kaefer vessels, with their larger fuel reserves, were able to out-maneuvre human vessels in orbital furballs, then out-race them to the Wall, where they became virtually unstoppable by the trapped human craft. Many commercial vessels at Aurore relied on tugs to manoeuvre to the Wall, as they lacked reaction mass for such an extended orbital operation. Kaefers, perhaps recognising the value of the tugs, destroyed most of them in the opening moments of the battle. This forced the merchant craft to conduct extended burns and long coasts to cover the huge distance, during which they were easy prey for Kaefer vessels.

As of late 2299, no Kaefer ship has been captured even remotely intact. Either they tend to explode or are deliberately scuttled. The information gleaned here is an amalgam of sensor reports, combat records and examination of debris. Much of the information on interior fittings comes from the brief examination a group of Elysian Rangers was able to make of a Geist scout ship, landed in the backwoods of Elysia. Kaefer ships seem to carry an inordinate number of crew, dwarfing the numbers carried on any human vessel, and that is before taking into account any embarked troops.

THE FIRST BATTLE OF TITHONOUS, 2298

After the initial encounter with Kaefers at Arcturus in 2295, France and Ukraine each began building defence squadrons at Aurore. France stationed one of their new battleships, the *Ste. Jeanne d'Arc*, as the flagship, accompanied by a two-ship cruiser squadron of the powerful Suffren class. A frontier squadron of four Aconit frigates accompanied the fleet, along with fighters and a resupply ship. The Ukrainians had a force of two of their old Konstantin cruisers and three Kiiev destroyers. The two fleets did not coordinate

well with each other and neither had put in place early warning systems to detect movement from Arcturus. An invasion was not considered likely; the fleets were there as a show of support to the colonies.

Then the Kaefers arrived. Their massed fleet swept in, destroying the two Suffren cruisers in the initial encounter, then pushing towards Tithonus and the colonies on Aurore.

The next encounter was between elements of the Kaefer fleet and two Ukrainian destroyers escorting fleeing civilian ships on the long crawl from Aurore to Tithonus's Wall. The human ships found themselves outgunned, unable to use their combat drones below the Wall and lacking the heavy gun armament of their foes. Only one human ship, the *Elektra 917 Hopewell*, was able to escape, running to Hochbaden to warn the colony there.

Finally, the human fleet moved to intercept the Kaefer ships, closing to gun range. The heavily-armed and armoured Kaefer ships were able to chew the human ships to pieces, although they suffered several combat losses as well. Two French frigates were able to escape, along with one of the Konstantin cruisers. The rest, including the mighty battleship *Ste. Jeanne d'Arc*, were lost.

The Kaefers were adept at starship combat and quick to capitalise on human errors. Their ships were better armed and much more heavily armoured, perfect for the encounters over Aurore where combat drones were ineffective. They carried more reaction mass for their drives as well, giving them a manoeuvring edge.

The environment around Tithonus is anomalous to human military planners. The depth of space below the Wall added tactical challenges that human ships and crews were not equipped to deal with. The French ships in particular were heavily reliant on combat drones, which were ineffective so close to the massive superjovian world. Of the major powers, only the United States and Japan have combat drones with reaction drives. This is an issue that must be resolved for any long term defence of Aurore and its colonies.

ALPHA BATTLESHIP

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefers
NUMBER IN SERVICE: Unknown
LENGTH: 90 m
WIDTH: 25 m
LAUNCH MASS (ESTIMATED): 20,000 tons
POWER PLANT: 150 MW Fusion Reactor
REACTION DRIVE: Nuclear OMS Thruster, 20,000 tons thrust
STUTTERWARP: 20 MW (estimated)

The Alpha is a powerful, heavily-armed starship. It was at the vanguard of the invasion at the Eta Bootis system and in the action that saw it go toe-to-toe with the *Ste. Jeanne d'Arc*, the most powerful human warship, it emerged the victor. The Alpha appears to have armour and screens at least as good as, if not better, than the best human designs. Armament includes four Grazer particle beam weapons, along with a number of Grumbler laser mounts and at least 10 X-Ray class-combat drones.

Although a powerful ship, the Alpha does not mount the heavy Golgotha particle beam systems. It has been theorised that perhaps the Golgotha weapons are unstable in some way. However, there is no evidence of this and the Betas encountered so far have been quite free with that usage of this massive weapon.

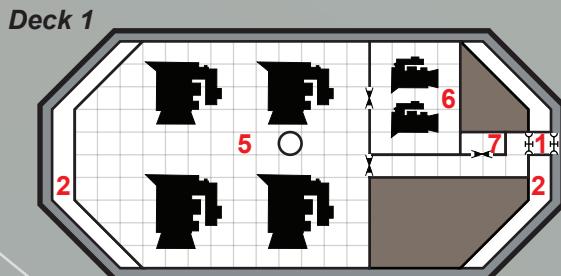
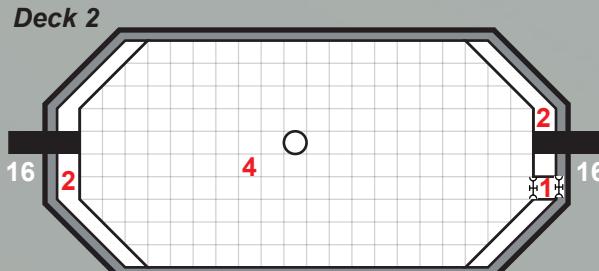
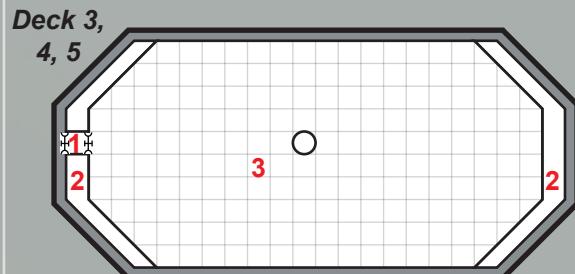
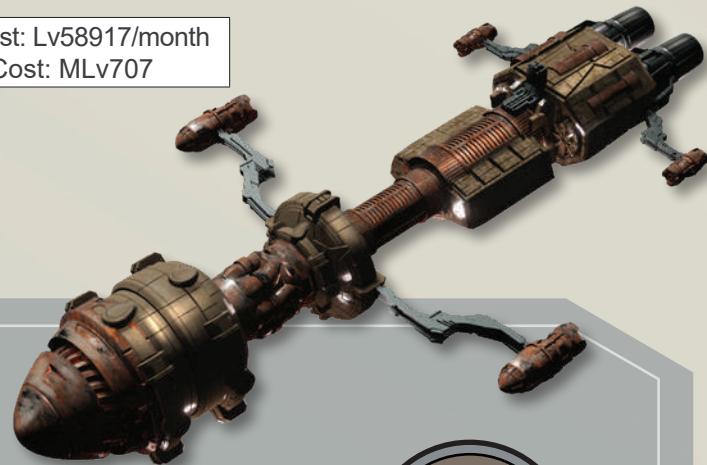
TL13		Tons	Cost (MLv)
Hull	2,000-ton Composite Spaceframe	—	60
Hull Features	Radiation Shield, Advanced	140	50
Armour	14	140	84
Reaction Drive	OMS Nuclear Thruster (advanced)	54	120
Stutterwarp	1.87 ly/day, Tac Speed: 2	10.61	53.03
Power Plant	Fusion Reactor (Power 1,500)	83.33	100
Emergency Power	20 Power, for 48 hours	0.96	0.96
Fuel Tanks	OMS Nuclear Thruster (20 Burns)	243	—
	Subcraft Fuel 4 refills	240	—
Radiators	AHDR, Capacity 2,000	100	50
Bridge	Standard, Encrypted Comms	40	11
Computer	Primary: Computer/15 Secondary: Computer/10	—	11.6
Sensors	Sky Watch (Advanced Military, DSS, GADS)	6.06	8.9
Weapons	Grumblers (hardened retractable surface mounts) x14 with KUTS, Grazers (hardened gun towers) x4 with KUTS	76	94.4
Screens	Rating: 8	14	25
Targeting	KUTS (+1)	—	—
Ordnance	Combat Drones: X-Ray x20	55	60.55
Drone Controllers	10	2.5	5
Tactical Action Centre	33 Personnel (command, gunners x19, drone pilots x10, sensor operators x2, flight controller)	32	3.2
Systems	Armouries x2, Shrines x2, Training Space for 50, Simple Freshers x20	113	11.3
	Sling (200 tons)	10	2
	Warhead Workshop	8	1.2
Sub-Craft	Golf Fighters in Berths x4, Llama Light Landers x4 in Berths	308	30.8
	Lima Heavy Lander in External Sling	—	—
Airlocks	Standard Airlocks x20	—	—
Accommodations	Nests x520, Burrows x10, Pits x20	300	0.92

TL13		Tons	Cost (MLv)
Software	Fire Control/1, Manoeuvre, Stutterwarp Control	—	2.89
Life Support	60 days for 550 Kaefer	99	—
Consumables			
Cargo		69.04	—
Total: MLv707			

Crew	Passengers	Hull Points	Signature: 4
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x6, Stutterwarp Engineers x6, Power Engineers x18, Small Craft Techs x16, Life Support Techs x3, Electronics Techs x3, Gunners x57, Drone Pilots x20, Drone Technicians x2, Damage Controls x200, Security x24, Ship's Troops x150, Small Craft/Fighter Pilots x20, Medics x7	—	260	Base Reflected: 4 Base Radiated: 4

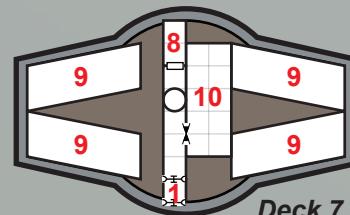
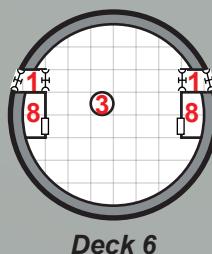
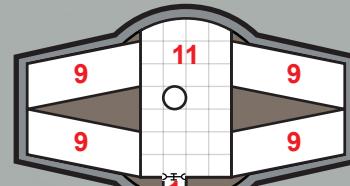
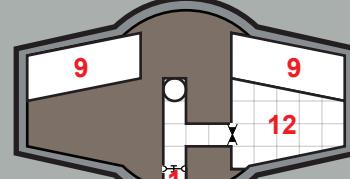
Power Requirements	Power
Basic Ship Systems	20
Reaction Drive	200
Stutterwarp	200
Sensors	15
Drone Controllers	20
Weapons	530
Screens	480

Maintenance Cost: Lv58917/month
Purchase Cost: MLv707

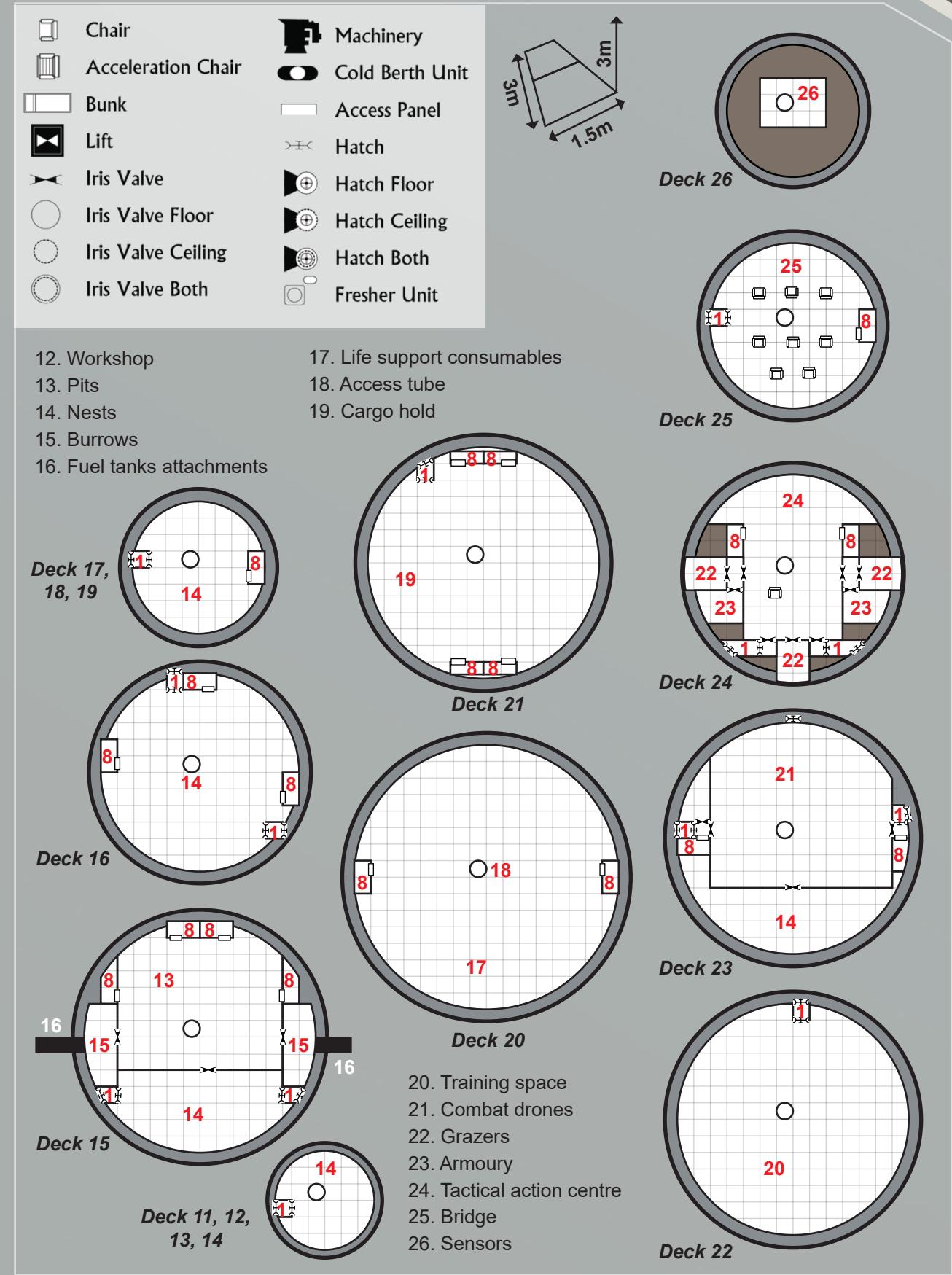


LEGEND

1. Airlock
2. Radiators
3. Berths
4. Power plant
5. Reaction drive
6. Stutterwarp
7. Emergency power
8. Simple fresher
9. Grumbler
10. Shrine
11. Screens



ALPHA BATTLESHIP



EPSILON ASSAULT TRANSPORT

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefers
NUMBER IN SERVICE: Unknown
LENGTH: 80 m
WIDTH: 25 m
LAUNCH MASS: 16,000 tons (estimated)
POWER PLANT: 45 MW Fusion Reactor
REACTION DRIVE: Advanced OMS Nuclear Thruster, 15,000 tons thrust
STUTTERWARP: 10 MW (estimated)

The Epsilon bears the hallmarks of being a civilian craft pressed into military duty; certainly, if it were a human vessel this would be an obvious conclusion. While armed and appearing to have some armour, it lacks both screens and drones. It notably carries a railgun, codenamed Grinder, evidently used for orbital bombardment. It carries four heavy Lima landers externally and appears to have one more in an internal bay. After the Second Battle of Tithonus in 2299, some fragments from what likely was an Epsilon were recovered in far orbit around the superjovian, clear of the giant's Threshold. These remains seem to indicate that most of the interior of the ship was given over to fuel and empty space. There is a possibility that it may do double-duty as an UNREP vessel or even a tanker.

TL13		Tons	Cost (MLv)
Hull	1,500-ton Aligned Crystal Steel Spaceframe	—	30
Hull Features	Radiation Shield, Advanced	75	37.5
Armour	4	75	6
Reaction Drive	OMS Nuclear Thruster (advanced)	40.5	90
Stutterwarp	1.52 ly/day, Tac Speed: 2	7.5	37.5
Power Plant	Fusion Reactor (Power 450)	25	30
Emergency Power	Power 15 (48 hours)	0.72	0.72
Fuel Tanks	OMS Nuclear Thruster (8 Burns)	72.9	—
	Subcraft Fuel 4 refills	40	—
Radiators	AHDR, 450 capacity	22.5	11.25
Bridge	Standard, Encrypted Comms	40	8.5
Computer	Primary: Computer/5 Secondary: Computer/5	1	0.6
Sensors	Sea Gull (Basic Military, DSS)	4	5.5
Weapons	Grumblers (retractable surface mounts) x6 with KUTS, Grinder (hardened heavy surface mount) with KUTS	38	40
Targeting	KUTS (+1)	—	—
Drone Controllers	2	0.5	1
Systems	Zero-G: Armouries x4, Shrines x2, Simple Freshers x10,	14.5	2.25
	Slings (200 tons) x4	40	8
Sub-Craft	Lima in Berth	220	22
	Limas x4 in Slings	—	—
Airlocks	Standard Airlocks x15	—	—
Accommodations	Nests x750, Burrows x20	415	1.15
Software	Manoeuvre, Stutterwarp Control	—	0.725
Life Support Consumables	60 days for 770 people	138.6	
Cargo		303.28	—
Total: MLv299.43			

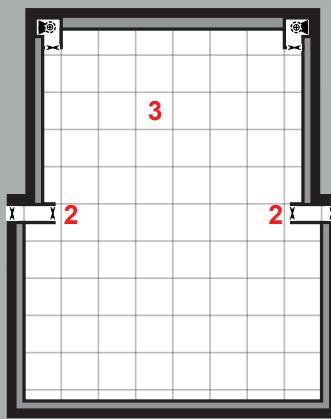
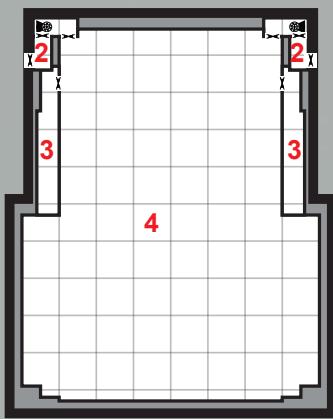
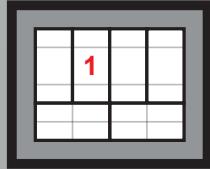
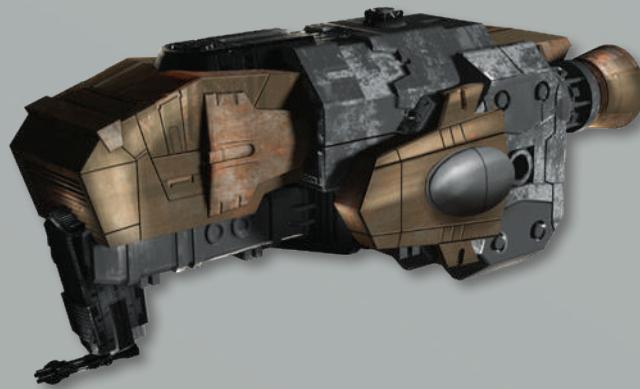
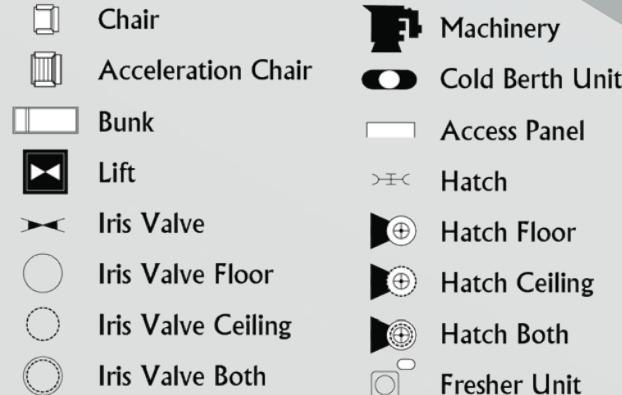
EPSILON ASSAULT TRANSPORT

Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x6, Stutterwarp Engineers x6, Power Engineers x9, Small Craft Techs x2, Life Support Techs x3, Electronics Techs x3, Gunners x24, Drone Pilots x4, Damage Control Crew x150, Security Troops x12, Ship's Troops x500, Small Craft/Fighter Pilots x6, Medics x10	—	165	Base Reflected: 3 Base Radiated: 3

Running Costs

Maintenance Cost: Lv24953/month
Purchase Cost: MLv299.43

Power Requirements	Power
Basic Ship Systems	15
Reaction Drive	150
Stutterwarp	100
Sensors	5
Drone Controllers	4
Weapons	245

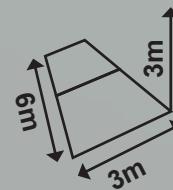


Deck 2

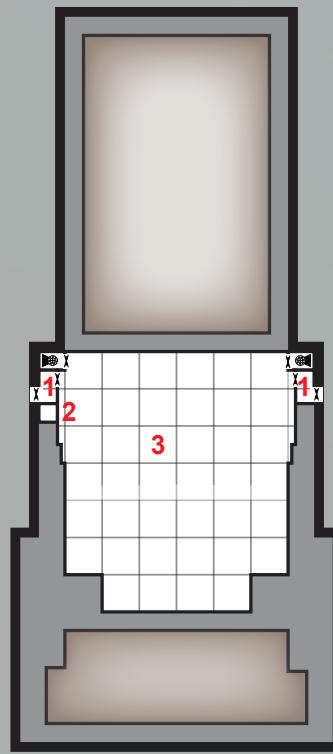
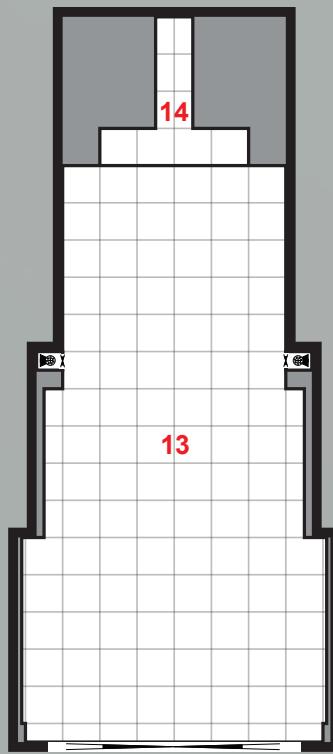
Deck 1

LEGEND

1. Grumblers
2. Airlock
3. Cargo
4. Consumables



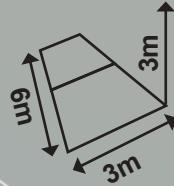
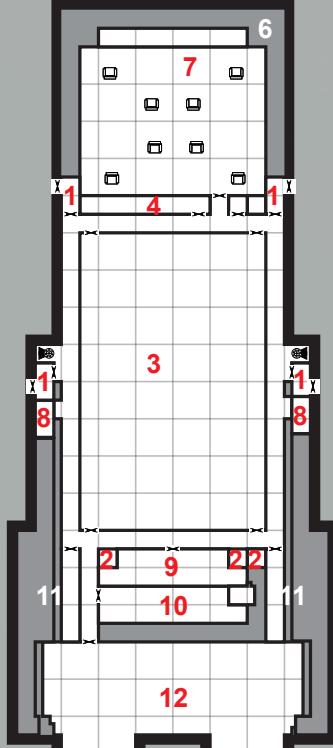
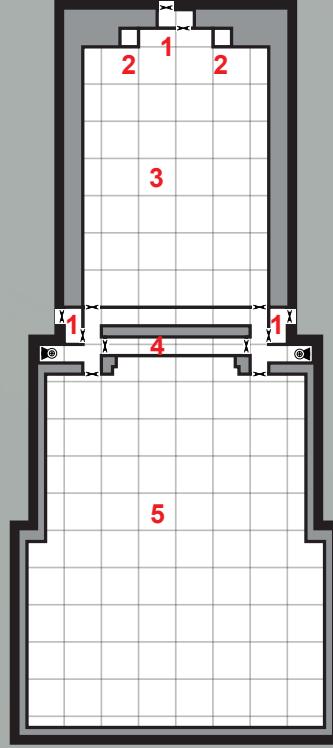
1 square = 2 tons

**LEGEND**

1. Airlock
2. Fresher
3. Nest and burrows
4. Armoury
5. Cargo
6. Sensors
7. Bridge

LEGEND

8. Shrine
9. Power plant
10. Stutterwarp
11. Nests
12. Reaction drive
13. Berth
14. Grinder



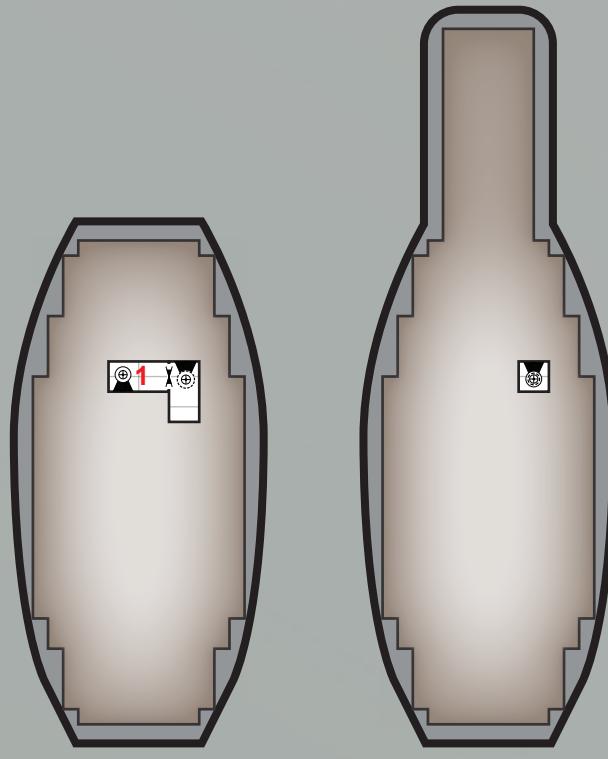
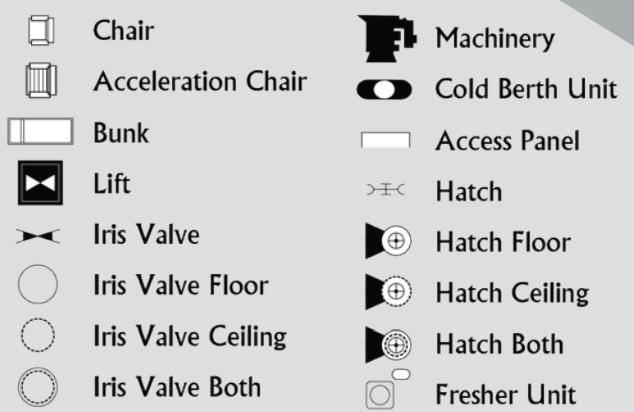
1 square = 2 tons

INDIA DESTROYER

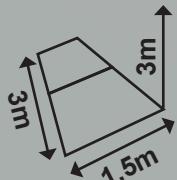
NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefer
NUMBER IN SERVICE: Unknown
LENGTH: 48.5 m
WIDTH: 18.19 m
LAUNCH MASS (FULLY FUELLED): 3,672 tons
POWER PLANT: 12.5 MW MHD Turbine
REACTION DRIVE: Advanced OMS Thruster, 4,000 tons thrust
STUTTERWARP: 5 MW (estimated)

The India has been classified as a raider, although it was used as a screening vessel in the Battle of Tithonus. It stayed beyond the Wall during that battle, leading some to think it may lack the extended reaction mass of other Kaefer designs. It appears to be a completely different design philosophy from most of the heavy Kaefer ships seen in the battles around Aurore and Tithonus, with more in common with the Geist and Delta. As a likely scout vessel, it appears to employ heat sinks and stealth technology to make close approaches to planets and installations. The armament on this craft is light and it only carries one small craft, a stealth variant of the Llama light lander (sometimes nicknamed Alpaca but that is not official nomenclature). Against military vessels, even fighters, this craft would not fare well. Against civilian ships, however, it would be very effective and some recent unexplained losses on the French Arm are now suspected of being caused by this vessel.

TL13		Tons	Cost (MLv)
Hull	400-ton Composite Spaceframe	—	12
Hull Features	Radiation Shield, Advanced, Stealth	8	50
Armour	4	8	4.8
Reaction Drive	OMS Thruster (advanced)	10.8	9.6
Stutterwarp	2.09 ly/day, Tac Speed: 2, System Speed: 1.34 AU/day	5.3	26.52
Power Plant	MHD Turbine (Power 125)	8.93	4.91
Emergency Power	Power 4 (48 hours)	0.192	0.192
Fuel Tanks	OMS Thruster (5 Burns)	48.6	—
	Power Plant (2 weeks)	62.5	—
Radiators	AHDR, Capacity 125	6.25	3.125
Heat Sinks	Capacity 125 for 12 hours	150	75
Bridge	Standard, Encrypted Comms	20	3
Computer	Primary: Computer/15 Secondary: Computer/10	—	11.6
Sensors	Sky Watch (Advanced Military, DSS, GADS), Telescope	7.53	11.25
Weapons	Grumblers (retractable surface mounts) x2 with KUTS	8	6.2
Targeting	KUTS (+1), Fire Control (+1)	—	—
Ordnance	Combat Drones: X-Ray x4	11	12.11
Drone Controllers	1	0.25	0.5
Systems	Zero-G: Armoury, Shrine, Simple Freshers x2	4.5	0.61
	Llama Combat Lander in Berth	22	2.2
Airlocks	Standard Airlocks x4	—	—
Accommodations	Nests x50, Burrows x3, Cocoons x2	11.2	52.06
Software	Fire Control/1, Manoeuvre, Stutterwarp Control	—	2.995
Life Support Consumables	60 days for 55 Kaefers	9.9	—
Cargo		1.55	—
Total: MLv259.81			

**LEGEND**

1. Airlock
2. Heatsink
3. Berth
4. Fresher
5. Sensors
6. Drone controller
7. Emergency power
8. Shrine

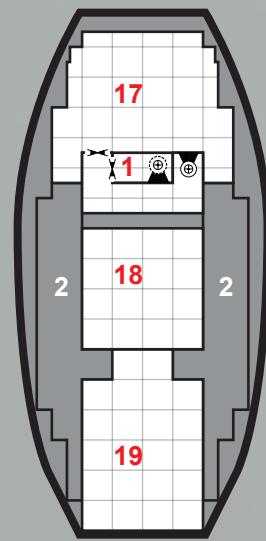
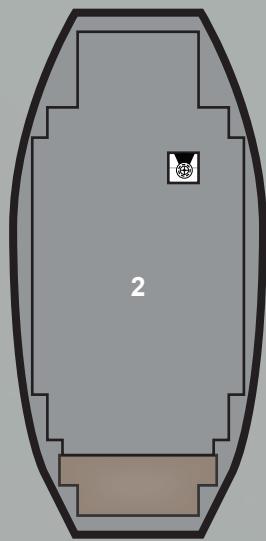
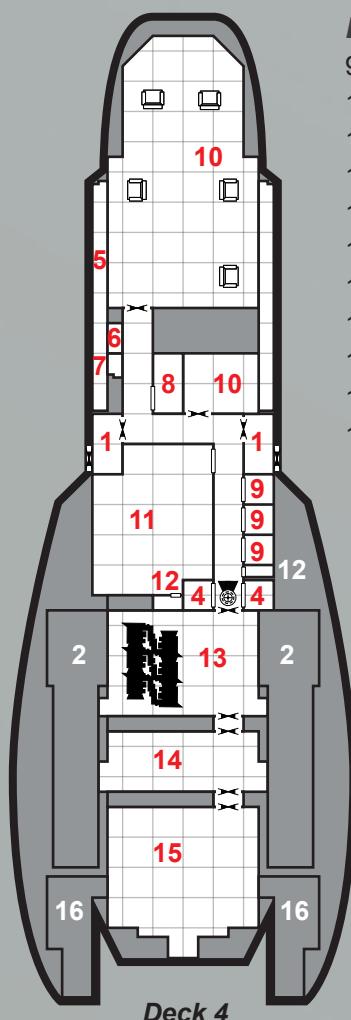
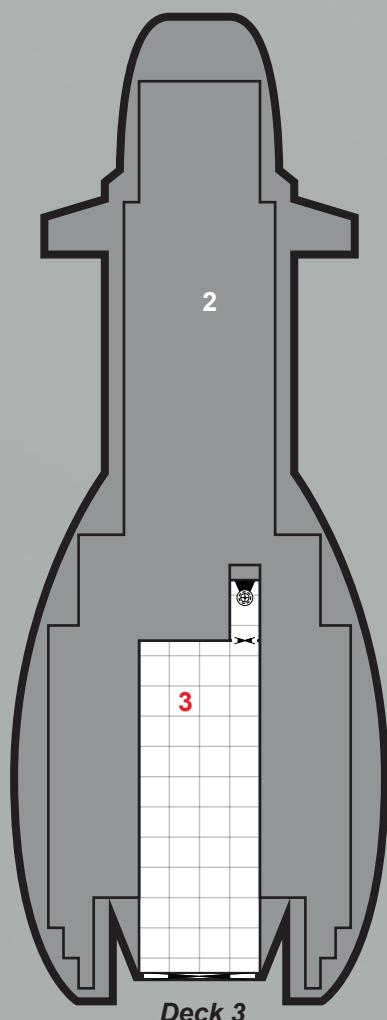


Crew	Passengers	Hull Points	Signature: 3
Captain, Bridge Officer, Astrogators x2, Flight Engineers x2, Pilots x2, Sensor Techs x2, Reaction Drive Engineers x2, Stutterwarp Engineers x2, Power Engineers x2, Small Craft Techs x2, Life Support Techs x2, Electronics Techs x2, Damage Control Crew x20, Ship's Troops x10, Small Craft/Fighter Pilots x3	—	52	Base Reflected: 2 Base Radiated: 3

Running Costs

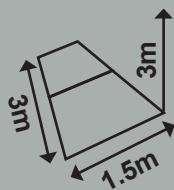
Maintenance Cost: Lv21651/month
Purchase Cost: MLv259.81

Power Requirements	Power
Basic Ship Systems	4
Reaction Drive	40
Stutterwarp	50
Sensors	15
Drone Controllers	2
Weapons	50



LEGEND

- 9. Burrows
- 10. Bridge
- 11. Nests
- 12. Cocoon
- 13. Power plant
- 14. Stutterwarp
- 15. Reaction drive
- 16. Radiator
- 17. Cargo and consumables
- 18. Grumbler
- 19. Drones



HOTEL FIGHTER

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefer
NUMBER IN SERVICE: Unknown
LENGTH: 17 m
WIDTH: 5.5 m
WINGSPAN: 7 m
TAKE-OFF MASS (FULLY FUELLED): ~400 tons
POWER PLANT: 4.9 MW MHD Turbine
REACTION DRIVE: Air-Breathing Thruster, 1,200 tons thrust
STUTTERWARP: 1.2 MW (estimated)
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,800 km/h

TAKE-OFF ROLL: 320 m
LANDING ROLL, UNPOWERED: 540 m
LANDING ROLL, POWERED: 180 m
MAXIMUM AIRSPEED: Supersonic
CRUISING AIRSPEED: Transonic
ENDURANCE: 1 Hour per Burn

The Hotel fighter is an atmosphere-capable combat vehicle equipped with both a laser array for space combat, and guns, missiles and bombs for atmospheric fighting and ground support. While it does not excel at any task, it is still effective. For most humans on Aurore, this was perhaps the most commonly encountered Kaefer spacecraft during the invasion, as it operated in support of ground troops.

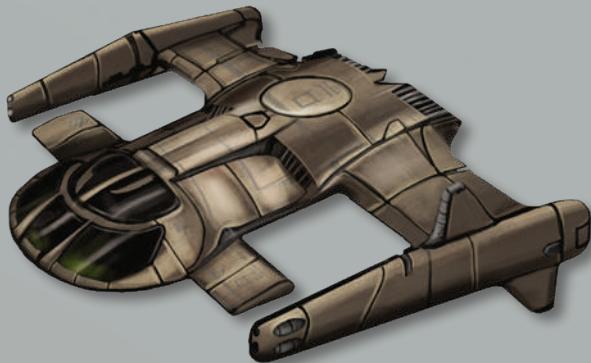
The Hotel has an additional six Burns of fuel for extended orbital operations and to increase its operational world Size range.

TL13		Tons	Cost (MLv)
Hull	40-ton Composite Lifting Body	—	1.36
Hull Features	Heat Shield, Advanced, Frontier Operations	1	1.59
Armour	5	1	0.6
Reaction Drive	Thruster (air-breathing, advanced)	1	1.25
Stutterwarp	3.24 ly/day, Tac Speed: 3 System Speed: 2.1 AU/day	2.6	12.99
Power Plant	MHD Turbine (Power 49)	3.5	1.93
Fuel Tanks	Thruster (11 Burns) Power Plant (15.5 hours)	9.9 1.14	— —
Radiators	AHDR, Capacity 49	2.45	1.225
Bridge	Single Cockpits x3, Encrypted Comms	4.5	1.515
Computer	Primary: Computer/10 Secondary: Computer/5	1	1.9
Software	Manoeuvre, Stutterwarp Control	—	1.545
Sensors	Spoon Rest (Basic Military)	3	4
Weapons	Grumbler (retractable surface mount), with KUTS Tri-Beamer (retractable mount), 4x Anti-Armour Missiles (streamlined mounts) x4, 200kg Bombs (retractable mounts) x8	3 2.271	2.9 0.179
Targeting	KUTS (+1, +2 for vehicle weapons)	—	—
Ordnance	Combat Drones: Whiskey x2	4.4	6.044
Drone Controllers	1	0.25	0.5
Systems	Ship's Locker	—	0.05
Cargo		—	—
Total: MLv35.17			

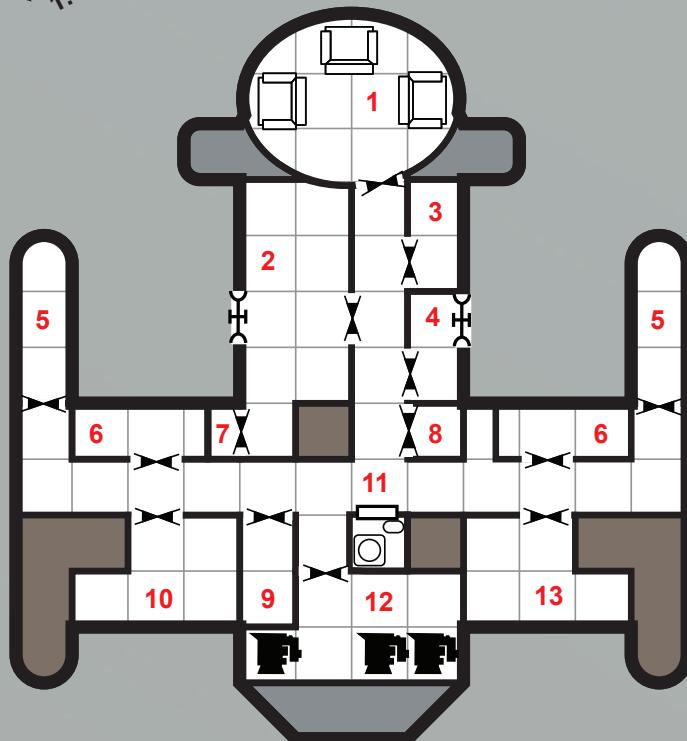
Power Requirements	Power
Basic Ship Systems	0.4
Reaction Drive	4
Stutterwarp	12

Sensors	5
Drone Controllers	2
Weapons	25

HOTEL FIGHTER



3m
3m
1.5m



LEGEND

- Cockpits
- Combat drones
- Computer
- Airlock
- Sensors
- Tri-beam
- Drone controller
- Ship's locker
- Reaction drive
- Radiators
- Fresher
- Power plant
- Stutterwarp
- Grumbler

14

Crew	Passengers	Hull Points	Signature: 2
Pilots x2	—	4	Base Reflected: 0 Base Radiated: 2

Running Costs

Maintenance Cost: Lv2931/month
Purchase Cost: MLv35.17

GOLF FIGHTER

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefer
NUMBER IN SERVICE: Unknown
LENGTH: 25.77 m
WIDTH: 9.66 m
LAUNCH MASS (FULLY FUELLED): 600 tons (estimated)
POWER PLANT: 12 MW MHD Turbine
REACTION DRIVE: Advanced OMS Thruster, 600 tons thrust
STUTTERWARP: 2.5 MW (estimated)

The Golf is a larger, dedicated space combatant, equivalent to a human gunboat. It lacks the interface capability of the Hotel but makes up for it in armour and firepower. In addition to lasers and particle beam weapons, the Golf carries a pair of Whiskey missiles, small, relatively-short ranged devices. Human forces do not have a counterpart for this weapon.

Some variants of the Golf mount a mass driver in place of the particle beam weapon and missiles. These appear to be used to attack static orbital structures and installations, although they could be pressed into service as artillery platforms.

TL13		Tons	Cost (MLv)
Hull	60-ton Composite Spaceframe	—	1.8
Hull Features	Radiation Shield, Advanced	3.3	1.5
Armour	11	3.3	1.98
Reaction Drive	OMS Thruster (advanced)	1.62	1.44
Stutterwarp	3.82 ly/day, Tac Speed: 4	3.75	18.75
Power Plant	MHD Turbine (Power 120)	8.57	4.71
Emergency Power	Power 0.6 (48 hours)	0.0288	0.0288
Fuel Tanks	OMS Thruster (6 Burns)	8.748	—
	Power Plant (20 hours)	3.6	—
Radiators	AHDR, Capacity 120	6	3
Bridge	Cockpits x3, Encrypted Comms	4.5	1.03
Computer	Primary: Computer/15 Secondary: Computer/10	1	11.6
Software	Fire Control/1, Manoeuvre, Stutterwarp Control	—	3.82
Sensors	Sea Gull (Basic Military, DSS)	4	5.5
Weapons	Grumbler (surface mount) with KUTS, Grazer (surface mount) with KUTS	5	5.6
Targeting	KUTS (+1), Targeting Computer +1	—	—
Ordnance	Combat Drones: X-Ray x2	5.5	6.055
Drone Controllers	1	0.25	0.5
Airlocks	Standard Airlocks	—	—
Cargo		0.63	—
Total: MLv60.6			

Crew	Passengers	Hull Points	Signature: 3
Pilot, Weapons Operators x2	—	7	Base Reflected: 1 Base Radiated: 3

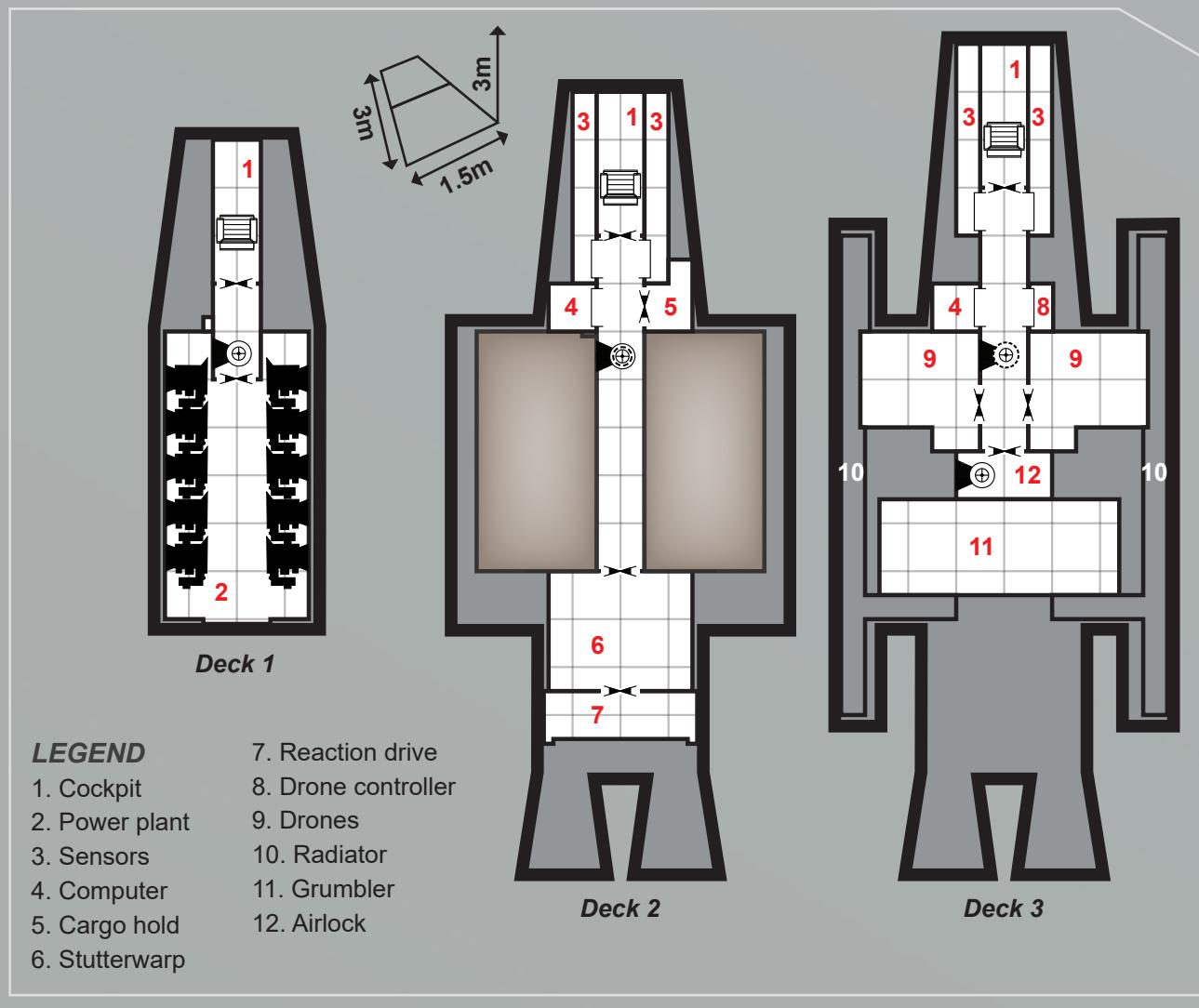
Running Costs

Maintenance Cost: Lv5048/month

Purchase Cost: MLv60.57

GOLF FIGHTER

	Chair
	Acceleration Chair
	Bunk
	Lift
	Iris Valve
	Iris Valve Floor
	Iris Valve Ceiling
	Iris Valve Both
	Machinery
	Cold Berth Unit
	Access Panel
	Hatch
	Hatch Floor
	Hatch Ceiling
	Hatch Both
	Fresher Unit



Power Requirements

	Power
Basic Ship Systems	0.6
Reaction Drive	6
Stutterwarp	25

Power

Sensors	5
Drone Controllers	2
Weapons	70

LLAMA LANDER

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefer
NUMBER IN SERVICE: Unknown
LENGTH: 14 m
WIDTH: 4.6 m
WINGSPAN: 5.5 m
TAKE-OFF MASS (FULLY FUELLED): 200 tons
POWER PLANT: 1 MW MHD Turbine
REACTION DRIVE: Air-Breathing Thruster, 660 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 6,000 km/h
TAKE-OFF ROLL: 1,200 m
LANDING ROLL, UNPOWERED: 330 m
LANDING ROLL, POWERED: 111 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 Hour per Burn

The Llama is a light lander, capable of carrying a single squad of troops and their support vehicle to the surface of a planet. It is armed only with air-to-surface support weapons like a tri-beamer plasma gun and a pair of retractable rocket pods. There is a stealthy variant carried on the India but it is functionally identical to the standard lander. It is not armed for space combat but is heavily-armed for planetary and air-to-air combat.

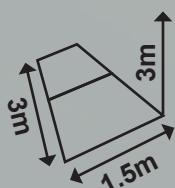
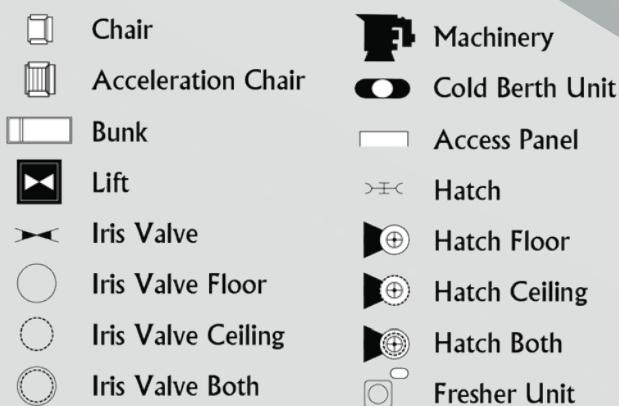
The Bugbus, an open but armoured halftrack, is the most common vehicle carried. It can carry all troops embarked, with additional space for equipment. On occasion, troops have travelled in the Bugbus, rather than in proper acceleration couches. This allows the lander to carry more troops but the risk of injury or death to the troops in the carried vehicle is high as the vehicle lacks proper harnesses and seats to secure troops against the turbulence of re-entry and combat manoeuvres.

The Llama is designed to operate from a Size 9 world. It also has an additional Burn of fuel for orbital operations and to increases its operational world Size range.

TL13		Tons	Cost (MLv)
Hull	22-ton Composite Lifting Body	—	0.748
Hull Features	Advanced, Heat Shield, Stealth, Frontier Operations, VTOL	0.44	3.135
Armour	2	0.22	0.132
Reaction Drive	Thruster (air-breathing, advanced)	0.66	0.825
Power Plant	MHD Turbine (Power 10)	0.71	0.39
Fuel Tanks	Thruster (7 Burns)	3.465	—
	Power Plant (12 hours)	0.18	—
Radiators	AHDR	0.5	0.25
Bridge	Dual Cockpit, Encrypted Comms	2.5	1.015
Computer	Primary: Computer/5	—	0.3
Sensors	Spoon Rest (Basic Military)	2	4
Weapons	Kingfisher Missiles (retractable mounts) x10, Snapfire Missiles (retractable mounts) x20, Tri-Beamer (retractable mount)	2.1	0.15
Targeting	Targeting Computer (+1)	—	—
Sub-Craft	Bugbus in Berth	4.4	0.44
Accommodations	Acceleration Couches x10	2.5	0.3
Software	Fire Control/1, Manoeuvre	—	2
Cargo		1.54	—
Total:		MLv12.32	

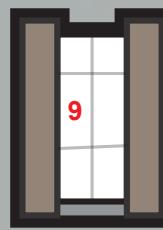
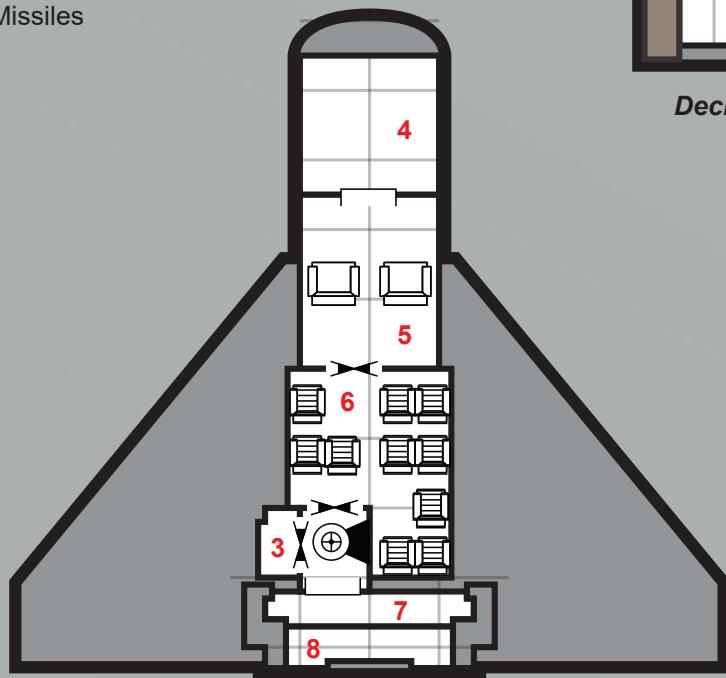
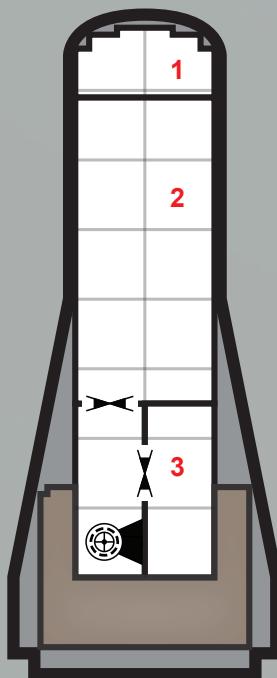
Crew	Passengers	Hull Points	Signature: 0
Pilot, Weapons Officer	10 Troops	2	Base Reflected: 0, Base Radiated: 0

LLAMA LANDER



LEGEND

1. Tri-beam
2. Bug bus
3. Cargo space
4. Sensors
5. Bridge
6. Acceleration couches
7. Power plant
8. Reaction drive
9. Missiles



Deck 3

Running Costs

Maintenance Cost: Lv1027/month

Purchase Cost: MLv12.32

Power Requirements

Power

Basic Ship Systems	0.22
Reaction Drive	2.2
Stutterwarp	5

LIMA LANDER

NATION: Kaefer
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Unknown
PRODUCTION STATUS: Unknown
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Kaefer
NUMBER IN SERVICE: Unknown
LENGTH: 33.68 m
WIDTH: 4.81 m
WINGSPAN: 28.87 m
TAKE-OFF MASS (ESTIMATED): 1,600 tons
POWER PLANT: 4 MW Fission Reactor
REACTION DRIVE: Air-Breathing Nuclear Thruster, 6,000 tons thrust
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 6,000 km/h
TAKE-OFF ROLL: 1,600 m
LANDING ROLL, UNPOWERED: 3,600 m

LANDING ROLL, POWERED: 1,200 m
MAXIMUM AIRSPEED: Hypersonic
CRUISING AIRSPEED: Supersonic
ENDURANCE: 1 Hour per Burn

The gold-skinned flying wing of the nuclear-powered Lima was a nightmare vision for the colonists on Aurore. It can carry an incredible combat load to a planetary surface, including heavy vehicles and 200 troops. The nuclear propulsion system is rare in human ships but the Lima is in widespread use by the Kaefers, despite its dangers.

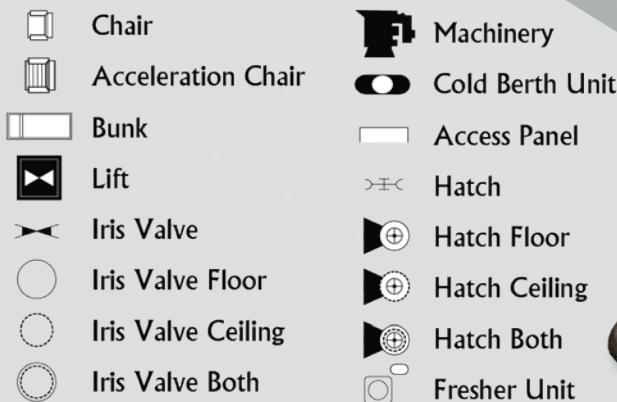
In addition to its cargo, the Lima also carries a significant weapon load of long-range artillery missiles and guided bombs. In the event of future conflicts with Kaefers, the destruction of these landers will be a priority.

The Llama has an additional two Burns of fuel for orbital operations, extended atmospheric operation, and to increase its operational world Size range.

TL13		Tons	Cost (MLv)
Hull	200-ton Synthetic Airframe	—	5.2
Hull Features	Heat Shield, Advanced, Frontier Operations, VTOL	19.6	8.98
Armour	11	17.6	3.52
Reaction Drive	Nuclear Thruster (air-breathing, advanced)	6	15
Power Plant	Fission Reactor (Power 40)	4	3.2
Emergency Power	Power 2 (48 hours)	0.096	0.096
Fuel Tanks	Nuclear Thruster (6 Burns)	16.2	—
Radiators	AHDR, Capacity 40	2	1
Bridge	Cockpits x3, Encrypted Comms	4.5	1.03
Computer	Primary: Computer/15 Secondary: Computer/10	—	11.6
Sensors	Spoon Rest (Basic Military)	2	4
Weapons	400kg Bombs (ordnance bay) x40, Artillery Missile Launchers (ordnance bay) x8	20.8	1.8
Targeting	Fire Control (+2)	—	—
Sub-Craft	Deathsleds x3 in Berths	69.3	6.93
Airlocks	Standard Airlocks x2	—	—
Accommodations	Zero-G Acceleration Couches x200	50	6
Software	Fire Control/1, Manoeuvre	—	2
Life Support Consumables	1 days for 310 Kaefers	0.93	—
Cargo		1.07	—
Total: MLv63.32			

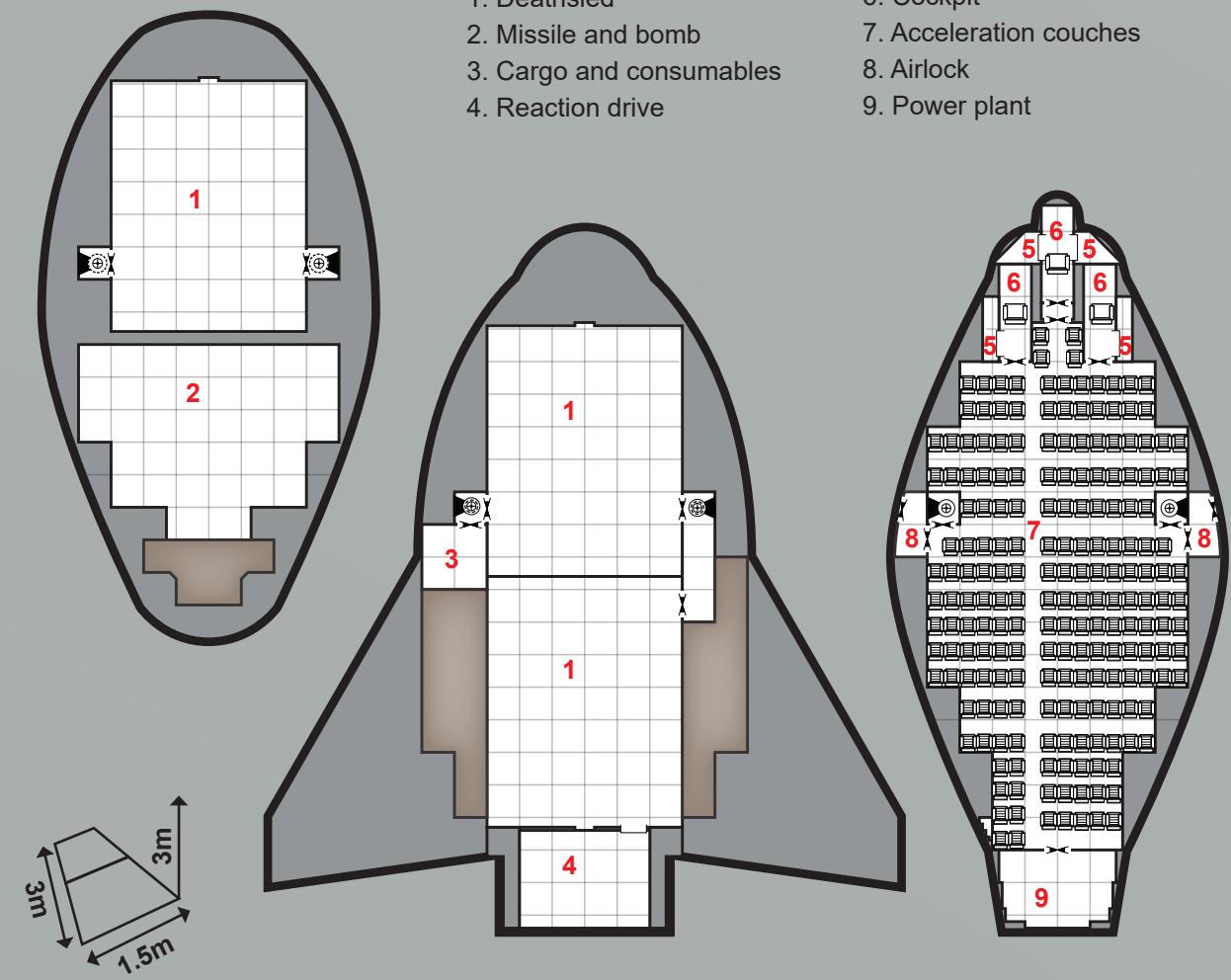
Crew	Passengers	Hull Points	Signature: 2
Pilot, Co-Pilot, Weapons Officer, Troops x200	—	20	Base Reflected: 2, Base Radiated: 2

LIMA LANDER



LEGEND

- 1. Deathsled
- 2. Missile and bomb
- 3. Cargo and consumables
- 4. Reaction drive
- 5. Sensors
- 6. Cockpit
- 7. Acceleration couches
- 8. Airlock
- 9. Power plant



Running Costs

Maintenance Cost: Lv5277/month
Purchase Cost: MLv63.32

Power Requirements

Basic Ship Systems	2
Reaction Drive	20
Sensors	5

Power

PENTAPOD SPACECRAFT

There are three types of Pentapod starship that have been encountered by humanity. Although each appears to be grown from common templates, over time they take on a unique appearance and develop capabilities in line with their goals, activities and personalities. To the extent that any Pentapod is an individual, their starships are individuals. While they have various 'sub-brains' that handle an assortment of functions throughout the ship, there is only one governing personality. It is theorised that if severe enough damage occurs, the sub-brains could develop separate personalities but this is thus far unproven.

Pentapod spacecraft generate power when in the life zones of stars, utilising the difference in temperature between the portion of the ship in sunlight and that in shadow. This power is stored in bioelectric cells that are extremely efficient. If the ships are equipped with human-supplied weapons, additional storage banks are added to provide them with power.

The Pentapod stutterwarp appears to have been a happy accident, the result of tinkering in 'dead-tech', or what is known as 'hard tech' to humans. Pentapod radios and a few other technologies are also the result of this line of thought but human researchers are still unsure how they made the leap to stutterwarp and only in the past 60 years. Despite this, Pentapods have had interstellar colonies for at least 200 years and spaceflight for over 1,000. These scattered colonies were founded by solar sail craft taking decades or centuries to travel between stars. These lightships were little more than a sail and a Seed, an advanced form of the Maker that produces most Pentapod biotechnology. From the Seed, entire colonies grew, with the ultimate purpose of making a Seed to return home, laden with bio-samples from the new world.

FAR|TRAVELLER|EXPANSION EXPLORER (FAR TRAVELLER)

NATION: Pentapods

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Pentapods

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 165 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Pentapods, all factions

NUMBER IN SERVICE: Unknown

LENGTH: 15.28 m

WIDTH: 11.46 m

WINGSPAN: 7.64 m

TAKE-OFF MASS (FULLY FUELLED): 1,000 tons

POWER PLANT: 7.1 MW Thermodynamic Accumulator

REACTION DRIVE: Air-Breathing Rocket, 3,000 tons thrust

STUTTERWARP: 7 MW Pentapod 'Dead Tech' Stutterwarp

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/

PRESSURE): 1,200 km/h

TAKE-OFF ROLL: 600 m

LANDING ROLL, UNPOWERED: 1,013 m

LANDING ROLL, POWERED: 338 m

MAXIMUM AIRSPEED: Transonic

CRUISING AIRSPEED: Subsonic

ENDURANCE: 1 Hour per Burn

The 100-ton Far|Traveller|Expansion is the smallest stutterwarp-capable vessel made by the Pentapods. Due to the size of organic power storage and fuel for the reaction drive, the ship has very little internal space. Humans find travel on the cramped ship to be very uncomfortable, even disturbing. The interior of these vessels makes no attempt to disguise what they are: alive.

Along with the Voidshark this ship is capable of interface travel and one of the few Pentapod starships that can go from a planetary surface to the Wall without refuelling.

The Far Traveller is designed to operate from a world of Size 6.

TL12		Tons	Cost (MLv)
Hull	100-ton Chitinous Lifting Body	—	6.4
Hull Features	Heat Shield, VTOL	2	1.2
Reaction Drive	Rocket (air-breathing, lift envelope)	3.45	3
Stutterwarp	5.5 ly/day, Tac Speed: 6, System Speed: 3.5475 AU per day	6	19.72
Power Plant	Thermodynamic Accumulator (Power 71)	5.92	3.25
Fuel Tanks	Rocket (4 Burns)	20	—
Bridge	Prime Node, Secondary Nodes x16	26	42
Sensors	Nav Radar, NI/UV	4.01	2.1
Systems	Manipulators x4, Grappling Arm	3	1.1
Airlocks	Airlock Sphincter	—	—
Accommodations	Cysts x2, Chamber (8 tons)	8.2	—
Biomass	75 days	10	—
Cargo		1.42	—
Total: MLv71.8			

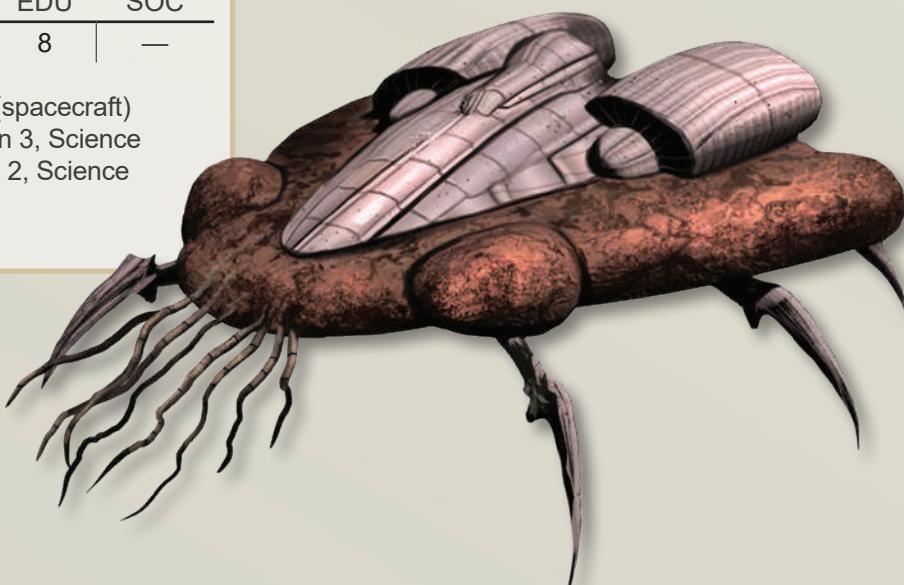
Crew	Passengers	Hull Points	Signature: 2
Secondary Nodes x2, Astrogation Nodes x2, Systems Control Nodes x2, Piloting Nodes x2, Sensory Nodes x2, Rocketry Nodes x2, Stutterwarp Control Nodes x2, Accumulator Control Nodes x2	—	7	Base Reflected: 1 Base Radiated: 2

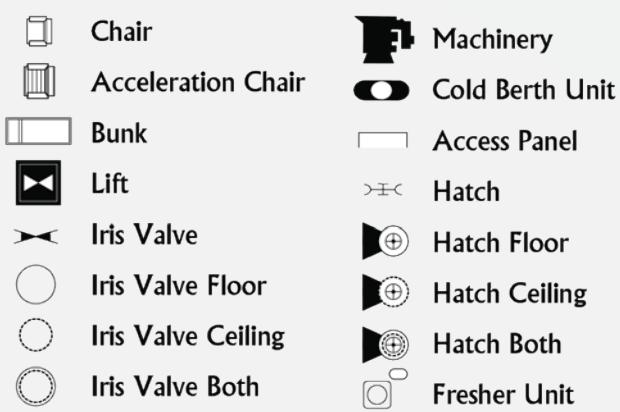
Running Costs	Power Requirements	Power
Maintenance Cost: Lv5983/month	Stutterwarp	70
Purchase Cost: MLv71.8	Sensors	1

Primary Node

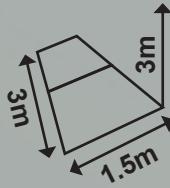
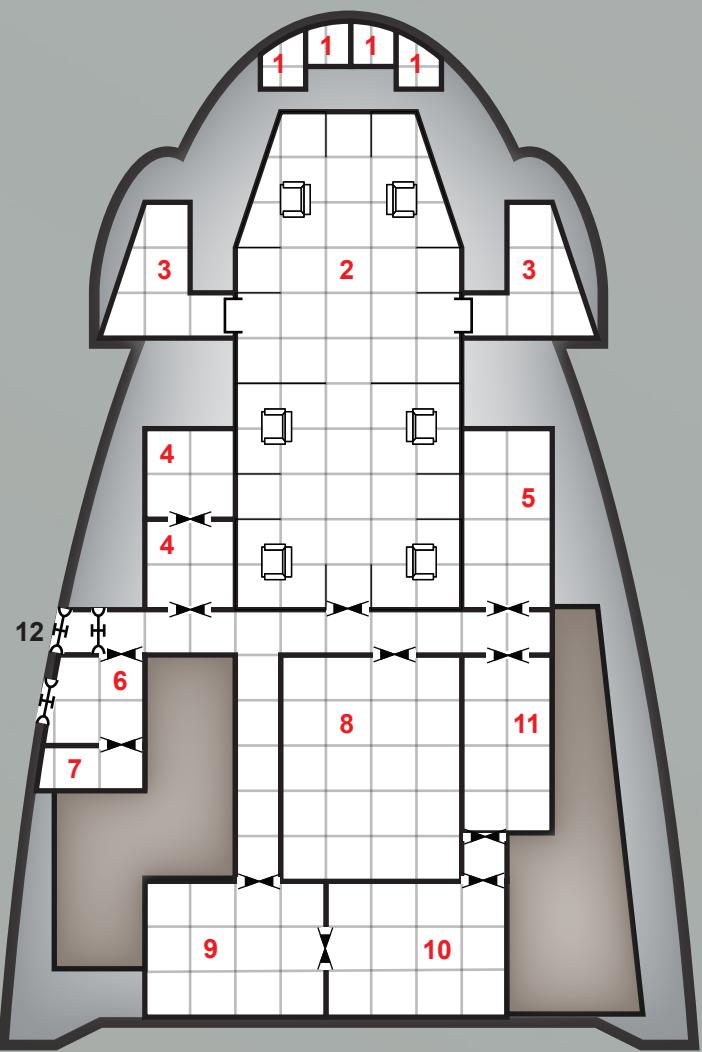
STR	DEX	END	INT	EDU	SOC
—	10	—	10	8	—

Astrogation 1, Leadership 2, Pilot (spacecraft) 3, Profession (biologicals) 5, Recon 3, Science (astrophysics) 1, Science (biology) 2, Science (history) 1, Science (linguistics) 2



**LEGEND**

1. Manipulator
2. Bridge
3. Sensors
4. Cyst
5. Chamber
6. Cargo hold
7. Grappling arm
8. Biomass
9. Power plant
10. Stutterwarp
11. Reaction drive
12. Airlock sphincter



SPACE PREDATOR|DEFENDER|SHADOW-STRIKER (VOIDSHARK)

NATION: Pentapods
FIRST EXAMPLE LAID DOWN: Unknown
MANUFACTURER: Pentapods
PRODUCTION STATUS: In Production
CONSTRUCTION TIME: Unknown
SERVICE STATUS: In Service
FLEETS OF SERVICE: Pentapods, all factions
NUMBER IN SERVICE: Unknown
LENGTH: 22.03 m
WIDTH: 16.52 m
WINGSPAN: 11.02 m
TAKE-OFF MASS (FULLY FUELLED): 3,000 tons
POWER PLANT: 12 MW Thermodynamic Accumulator
REACTION DRIVE: Air-Breathing Rocket, 9,000 tons thrust
STUTTERWARP: 7 MW Pentapod 'Dead Tech' Stutterwarp
ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/PRESSURE): 1,200 km/h
MAXIMUM AIRSPEED: Transonic
CRUISING AIRSPEED: Subsonic
ENDURANCE: 1 Hour per Burn

At 300 tons, the Voidshark is the largest of the atmosphere-capable Pentapod ships. No human has ever been aboard one but they have several features that contribute to their threatening reputation. Most Voidsharks encountered have been armed with a pair of human-supplied EA-122 lasers with a UTES array. Even ships from groups known to be unfriendly or hostile to humans have been seen with these human-made

weapons, although it is unknown where they obtained them. Giscard, their manufacturer, has only recorded a handful of sales, all approved by the French government. Intensive investigations of Giscard and their manufacturing and shipping facilities has failed to reveal irregularities.

Beyond the human-supplied weapons, all Voidsharks are armed with an array only used in atmosphere or at very close range. This includes biolasers, arc-throwers and capture systems, joined by a tentacle cluster that extends from the bottom of the vessel. In addition to these systems, the Voidshark is equipped with a deployable hydrogen lift envelope, which allows it to move in an atmosphere without expending precious reaction drive fuel.

Along with the weapons and exterior fixtures, the vessel itself carries several Pentapod subtypes that fill a military or paramilitary role. This includes the dreaded Bishops, along with larger, stronger versions of the diplomatic types. The first time humans became aware of the Bishop-type was in 2297, when one was involved in an incident with a human child at the surface port. Port guards killed the Bishop but it proved incredibly tough. The child required reconstructive surgery and trauma memory erasure to recover.

The Voidshark is designed to operate from a world of Size 7. It has an additional Burn of fuel for orbital operations and to increases its operational world Size range.

TL12		Tons	Cost (MLv)
Hull	300-ton Chitinous Lifting Body	—	19.2
Hull Features	VTOL	14.4	0.6
Armour	4	8.4	0.48
Reaction Drive	Rocket (advanced, air-breathing, lift envelope)	70.888	84.38
Stutterwarp	3.18 ly/day, Tac Speed: 3, System Speed: 2.0511 AU per day	6	19.72
Power Plant	Thermodynamic Accumulator (Power 120)	10	5.5
Fuel Tanks	Rocket (4 Burns)	60	—
Bridge	Prime Node	30	30
Sensors	Nav Radar, NI/UV, High Res, Microwave, High Res	10	8
Weapons	Biolasers (retractable) x2 Biosampler (retractable mount), Capture System (retractable mount)	8 1	3 2.82
Targeting	None (-4)	—	—
Airlocks	Sphincters x3	—	—
Accommodations	Nodes x23, Cysts x10, Chambers x5	29	46
Biomass	75 days	30	—
Cargo		0.63	—
Total: MLv201.33			

Crew	Passengers	Hull Points	Signature: 2
Secondary Nodes x2, Astrogation Nodes x2, Systems Control Nodes x2, Piloting Nodes x2, Sensory Nodes x2, Rocketry Nodes x2, Stutterwarp Control Nodes x2, Accumulator Control Nodes x2 Comfort Rating: -2	—	7	Base Reflected: 1 Base Radiated: 2

Primary Node

STR	DEX	END	INT	EDU	SOC
—	12	—	11	6	—

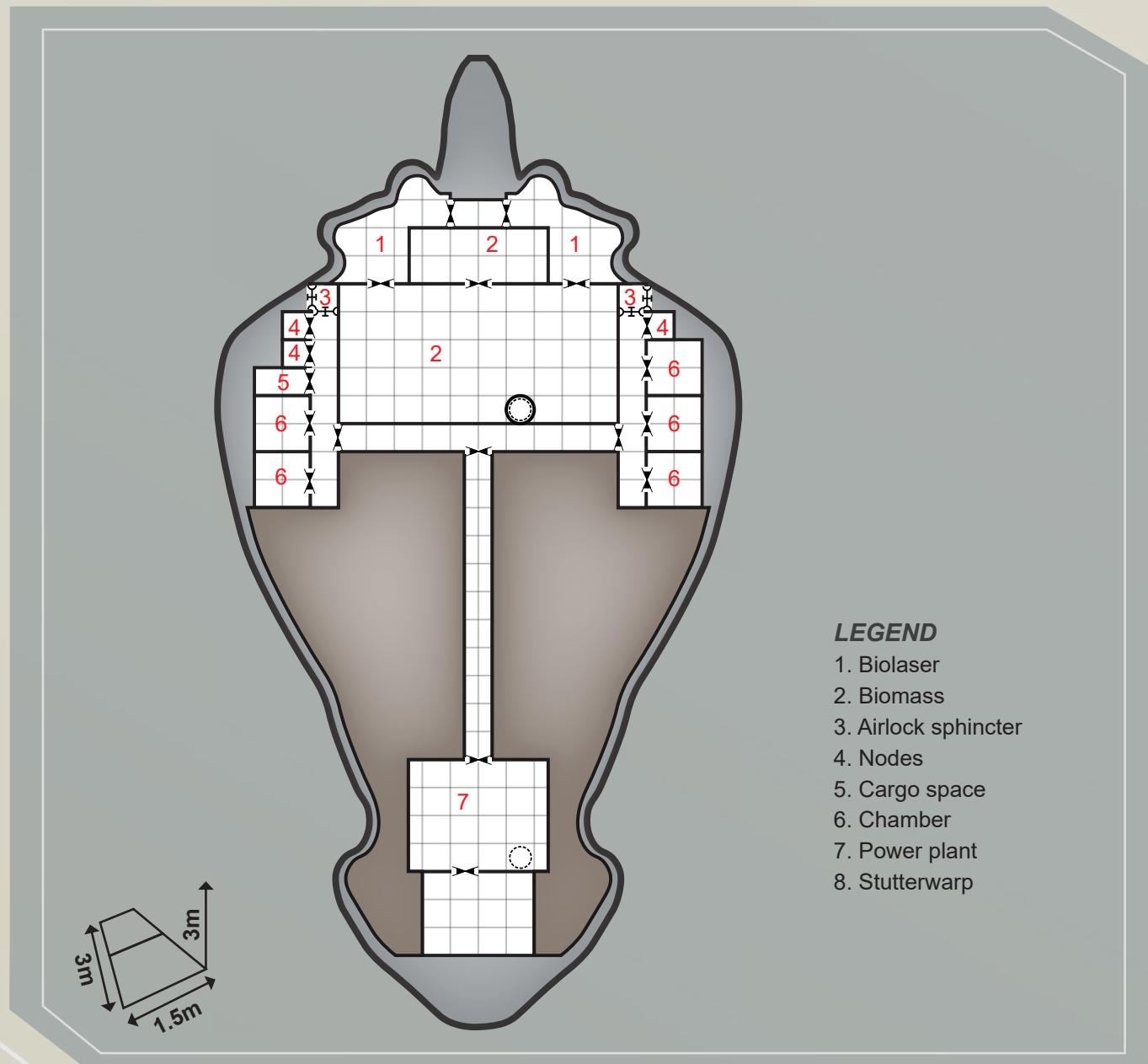
Astrogation 1, Gunner (turret) 2, Leadership 2, Recon 3, Pilot (spacecraft) 3, Science (astrophysics) 1, Science (biology) 2, Tactics (naval) 2

Running Costs

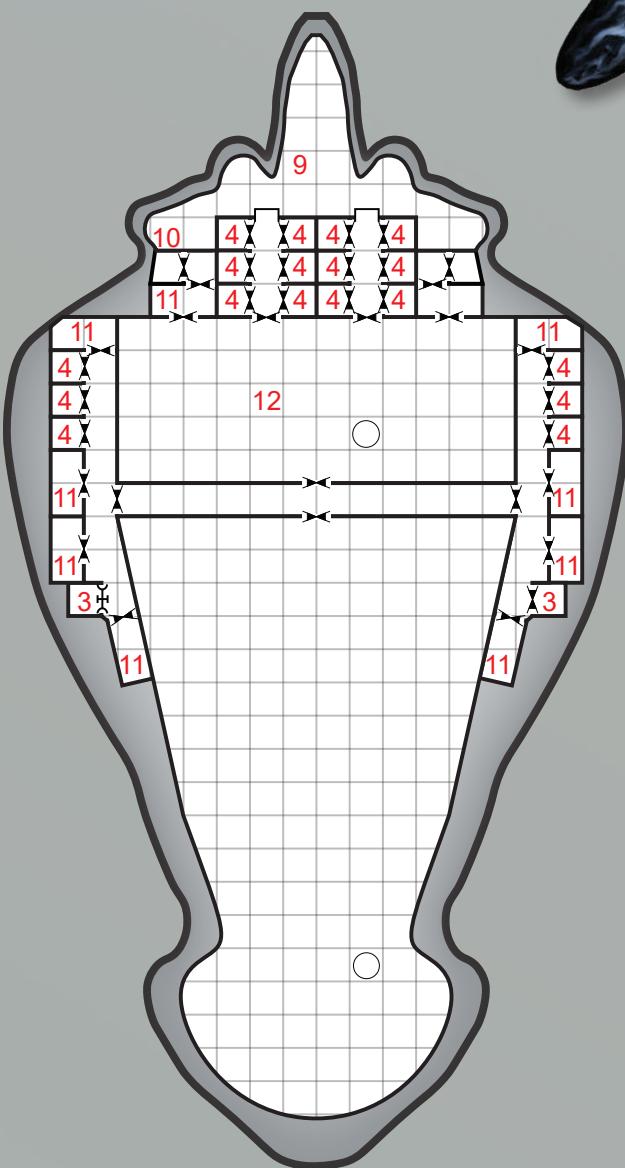
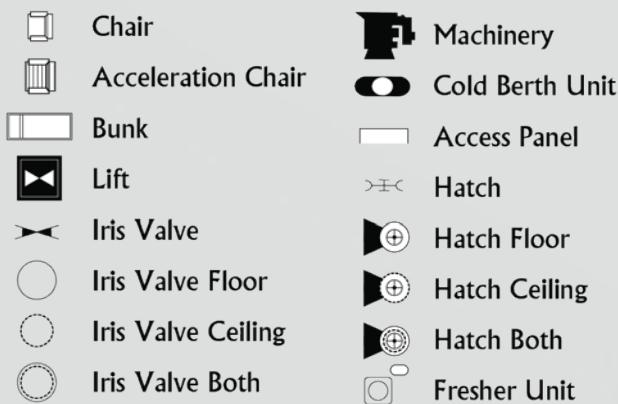
Maintenance Cost: Lv5983/month
Purchase Cost: MLv71.8

Power Requirements

Power Requirements	Power
Stutterwarp	70
Sensors	1

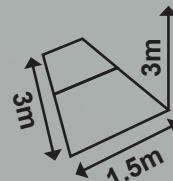


SPACE PREDATOR|DEFENDER|SHADOW-STRIKER



LEGEND

- 9. Sensors
- 10. Capture system
- 11. Cyst
- 12. Prime node
- 13. Reaction drive



EXPANSION|TRADE|GROWTH (JELLY)**NATION:** Pentapods**FIRST EXAMPLE LAID DOWN:** Unknown**MANUFACTURER:** Pentapods**PRODUCTION STATUS:** In Production**CONSTRUCTION TIME:** 4,114 Days**SERVICE STATUS:** In Service**FLEETS OF SERVICE:** Pentapods, all factions**NUMBER IN SERVICE:** Unknown**DIAMETER:** 250 m**TAKE-OFF MASS (FULLY FUELLED):** 75,000 tons**POWER PLANT:** 7.5 MW Thermodynamic Accumulator**REACTION DRIVE:** Advanced OMS Rocket, 100,000 tons thrust**STUTTERWARP:** 7 MW Pentapod 'Dead Tech' Stutterwarp

The so-called Jelly is a giant glob of viscous material, trailing a long cluster of tentacles that presumably aid in loading cargo. They currently hold the record for the largest ships in use by any species, over twice the size of the *Tallyrand* battleship. The Jelly carries minimal thruster fuel and usually orbits beyond the planetary Wall, using interface craft to tranship cargo and passengers.

Recently, Jellies have started carrying human passengers in purpose-grown internal modules designed to make the journey pleasant. Otherwise, in common with most Pentapod vessels, the interior is distasteful, even disgusting, to humans.

These vessels are massive, although there have been hints that much smaller vessels are in use in Pentapod-controlled systems. They are thought to grow over time, so those encountered by humans are the oldest and most experienced. Like all Pentapod ships, there is one personality controlling the entire vessel. Sub-nodes and internal biological constructs are under the control of the central intelligence.

The translation of the Pentapod name for this ship, 0|4|1, is usually rendered as Expansion|Trade|Growth. This is not quite correct; the translation of the last glyph is closer to *metastasize* than mere *growth*. However, having a ship named after the geometric growth and spread of cancerous tissue was considered inadvisable by the French group managing contact with the Pentapods.

TL12		Tons	Cost (MLv)
Hull	10,000-ton Viscous Sphere	—	250
Reaction Drive	Pentapod Bio Rocket (advanced)	675	750
Stutterwarp	0.52 ly/day, Tac Speed: 1, System Speed: 0.3354 AU per day	6	19.72
Power Plant	Thermodynamic Accumulator (Power 75)	6.25	3.44
Fuel Tanks	Rocket (4 Burns)	1,260	—
Bridge	Prime Node, Secondary Nodes x55	1,055	1110
Sensors	Nav Radar, NI/UV, High Res, Microwave, High Res, HR Radio, High Res	20	18
Systems	Manipulators x20, Grappling Arms x20, Loading Arms x20	125	14.5
Human Accommodations	Common Areas (50 tons), Freshers x2, Full Galleys x10, Exercise Equipment x10, Theatre for 10	95.5	10.52
	Staterooms x10	40	5
Airlocks	Sphincters x100, Large Cargo Vacuoles x8	96	0.64
Accommodations	Cysts x50, Chamber (2,000 tons)	2,060	110
Long Term Life Support	Tree of Life (130 ton area, 2-year duration)	5.65	2
Biomass	75 days	1,000	—
Cargo		2,610.83	—
Total: MLv2056.92			

Crew	Passengers	Hull Points	Signature: 4
Secondary Nodes x2, Astrogation Nodes x2, Systems Control Nodes x2, Piloting Nodes x2, Sensory Nodes x16, Rocketry Nodes x2, Stutterwarp Control Nodes x2, Accumulator Control Nodes x2, Cargo Handler Nodes x 10 Manipulator Nodes x6	10	1,000	Base Reflected: 4 Base Radiated: 2

EXPANSION|TRADE|GROWTH (JELLY)

Primary Node

STR	DEX	END	INT	EDU	SOC
—	10	—	10	8	—

Admin 2, Broker 1, Astrogation 1, Diplomat 2, Leadership 1, Pilot (spacecraft) 2, Profession (biologicals) 4, Recon 1, Science (history) 1, Science (linguistics) 2

Running Costs

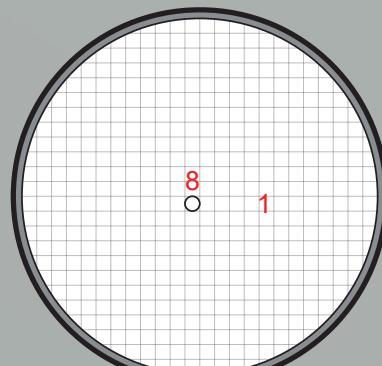
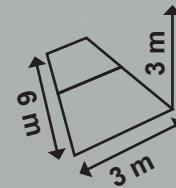
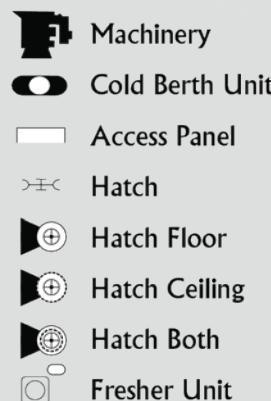
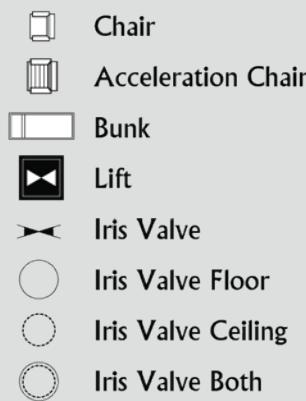
Maintenance Cost: Lv171410/month

Purchase Cost: MLv2056.92

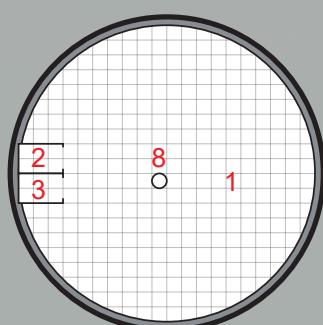
Power Requirements

Power
Stutterwarp
Sensors

Power



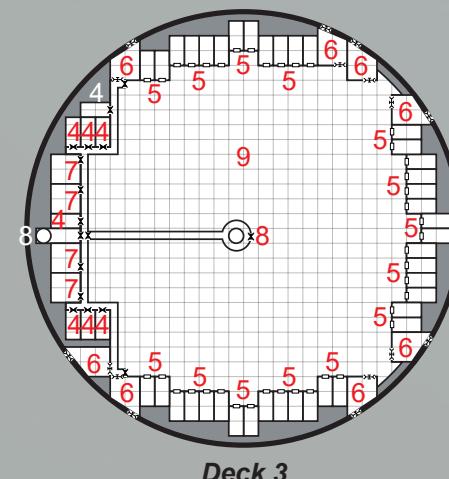
Deck 2



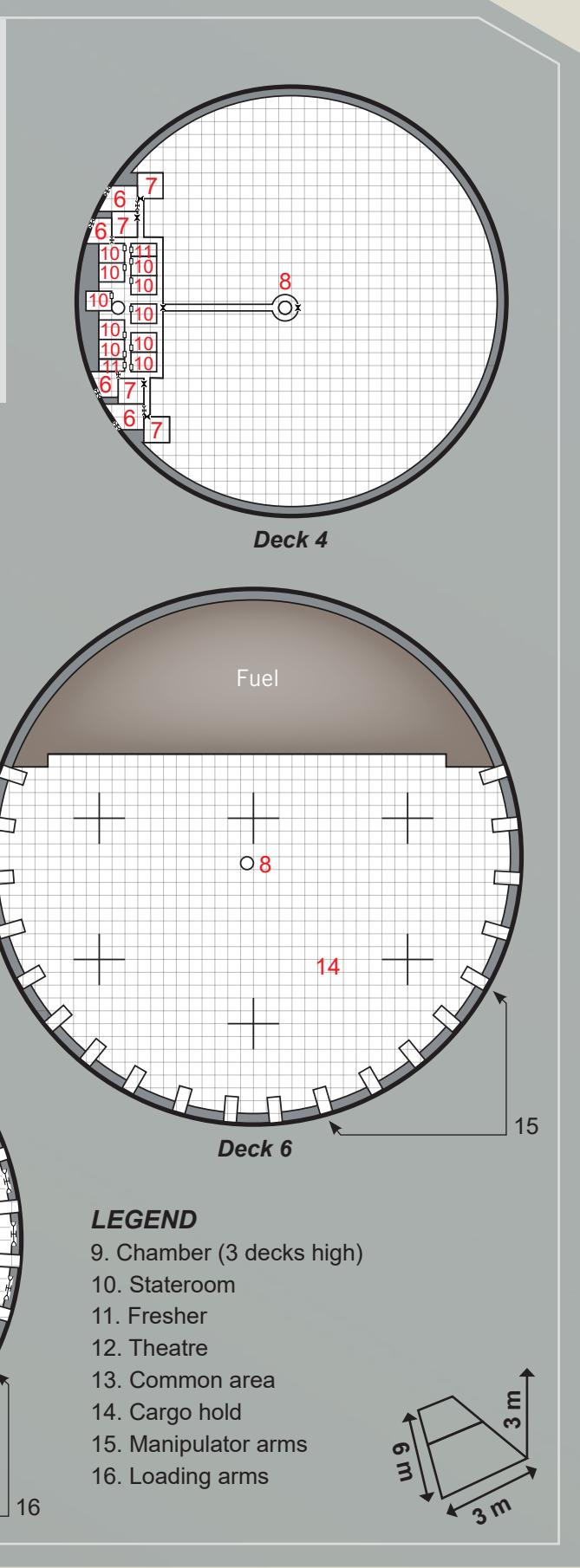
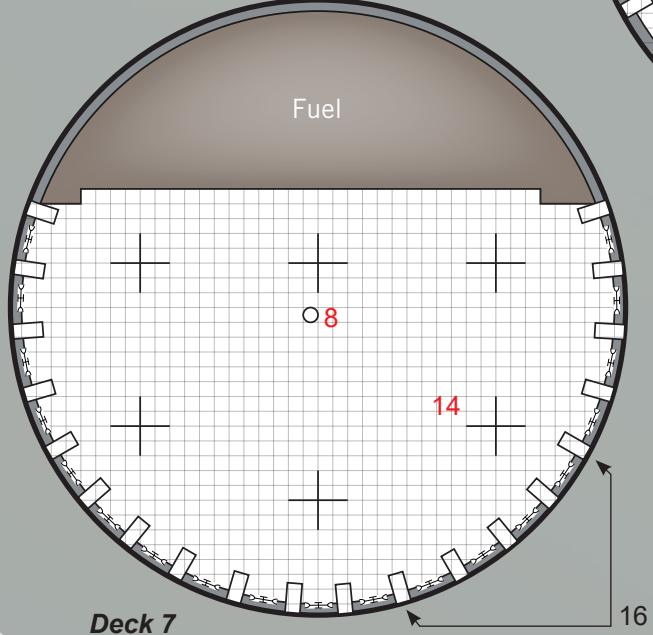
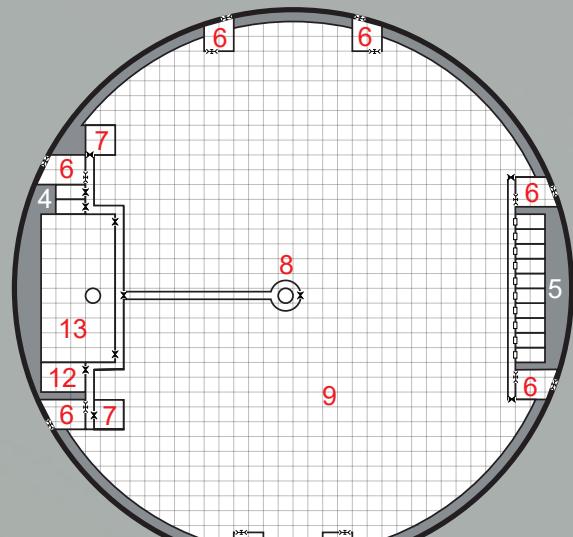
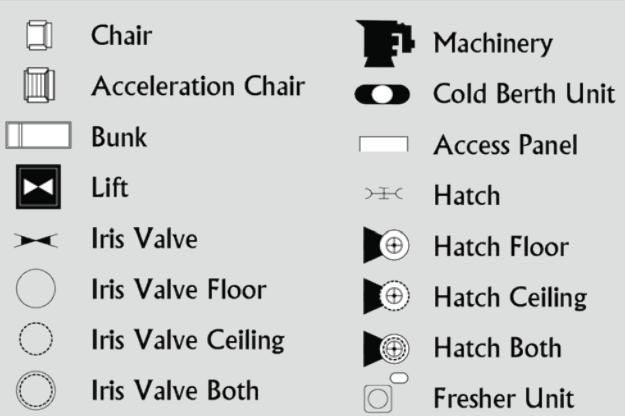
Deck 1

LEGEND

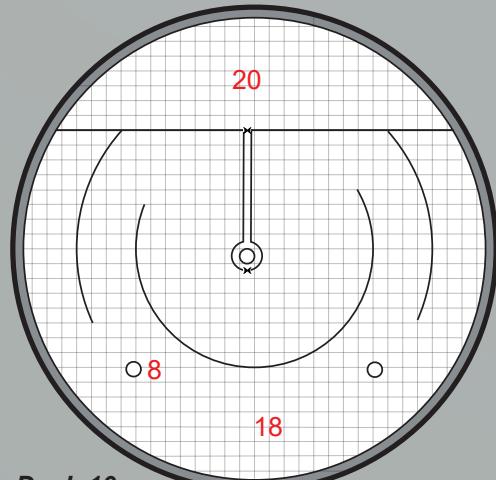
1. Reaction dDrive
2. Stutterwarp
3. Power plant
4. Galley
5. Cysts
6. Airlocks
7. Exercise room
8. Access tube
9. Chamber
(3 decks high)



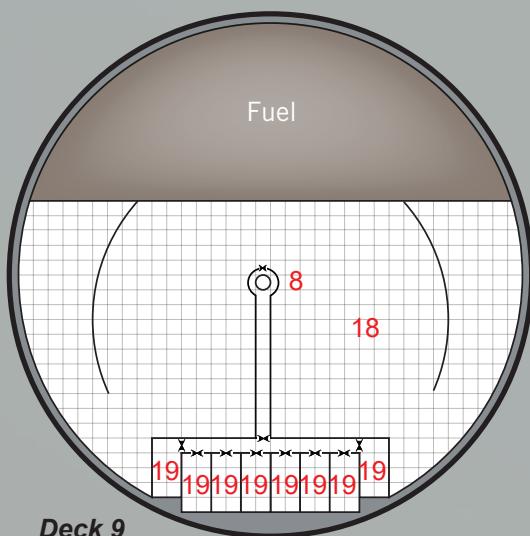
Deck 3



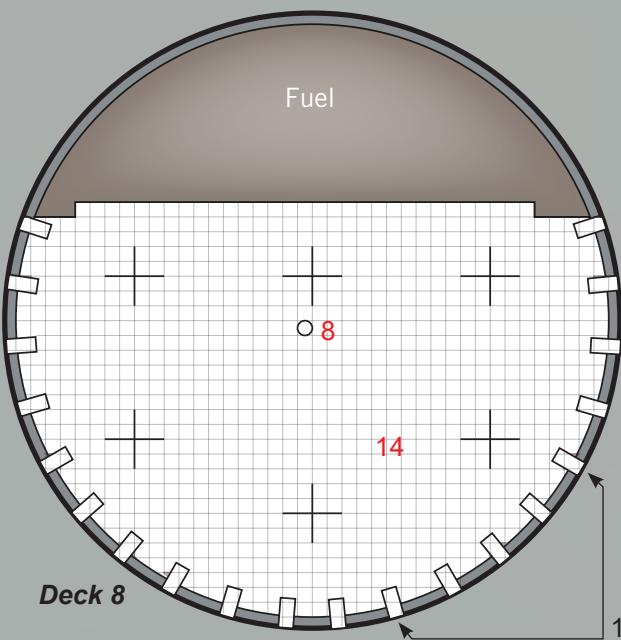
EXPANSION|TRADE|GROWTH (JELLY)



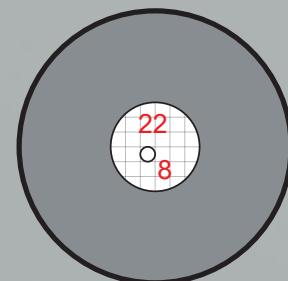
Deck 10



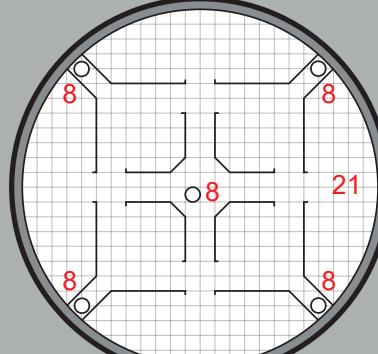
Deck 9



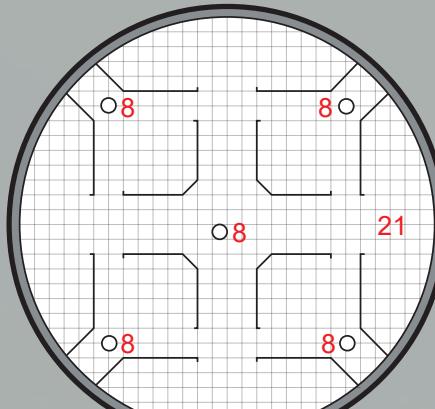
Deck 8



Deck 13



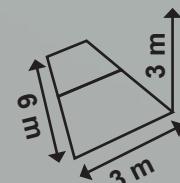
Deck 12



Deck 11

LEGEND

- 17. Grappling arms
- 18. Biomass
- 19. Cargo vacuoles
- 20. Tree of life
- 21. Bridge
- 22. Sensors



CLIMBER/FIRE-RIDER (BUMBLEBEE)

NATION: Pentapods

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Pentapods

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 20 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Pentapods, all factions

NUMBER IN SERVICE: Unknown

LENGTH: 8.93 m

WIDTH: 6.7 m

WINGSPAN: 4.47 m

TAKE-OFF MASS (FULLY FUELLED): 200 tons

POWER PLANT: 0.5 MW Thermodynamic Accumulator

REACTION DRIVE: Air-Breathing Rocket, 600 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/

PRESSURE): 1,200 km/h

TAKE-OFF ROLL: 140 m

LANDING ROLL, UNPOWERED: 236 m

LANDING ROLL, POWERED: 79 m

MAXIMUM AIRSPEED: Transonic

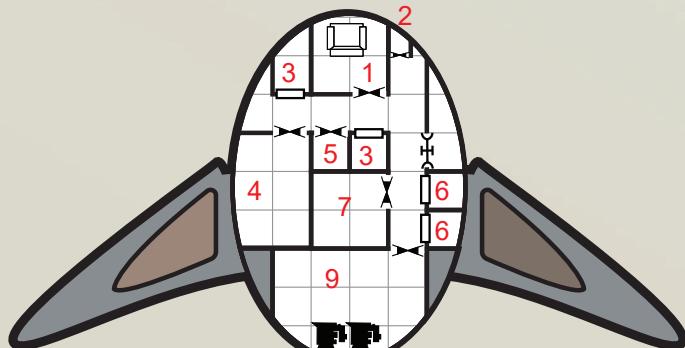
CRUISING AIRSPEED: Subsonic

ENDURANCE: 1 Hour per Burn

For a lander, the Bumblebee is remarkably non-aerodynamic in appearance, which led to the human nickname for it. It is a capable flyer, however, despite its awkwardness.

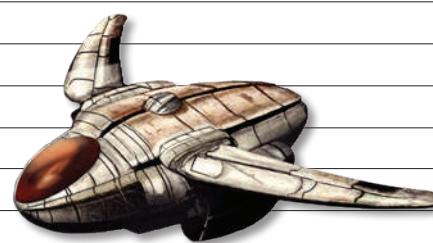
It is a very small craft, able to take two passengers and three tons of cargo into low orbit. Like all Pentapod vehicles and starships, the Bumblebee is intelligent and self-aware, presumably engineered from the standard Pentapod type like so many other ships and vehicles.

The Bumblebee is designed to operate from a world of Size 7.

**LEGEND**

- | | |
|----------------|-------------------|
| 1. Prime node | 6. Cysts |
| 2. Sensors | 7. Biomass |
| 3. Alcoves | 8. Airlock |
| 4. Cargo | 9. Reaction drive |
| 5. Power plant | |

TL12		Tons	Cost (MLv)
Hull	20-ton Chitinous Lifting Body	—	1.28
Reaction Drive	Rocket (air-breathing, lift envelope, low-orbit)	5.175	4.21875
Power Plant	Thermodynamic Accumulator (Power 5)	0.42	0.23
Fuel Tanks	Rocket (3 Burns)	3	—
Bridge	Prime Node	2	2
Sensors	NI/UV	0.01	0.1
Accommodations	Cysts x2, Alcoves x2	2.2	—
Biomass	75 days	2	—
Cargo		3.1	—
Total: MLv9.93			



Crew	Passengers	Hull Points	Signature: 1
Primary Node	2	1,000	Base Reflected: 0 Base Radiated: 1

Primary Node

STR	DEX	END	INT	EDU	SOC
—	12	—	8	7	—

Pilot (spacecraft) 3, Recon 1, Science (history) 1

Running Costs

Maintenance Cost: Lv828/month

Purchase Cost: MLv9.93

Power Requirements

Sensors

Power

2

SUNG SPACECRAFT

Most Sung spacecraft use solar sails or ion drives for long-duration voyages within their star system, along with advanced designs of variable-plasma technology. It is worth noting that Sung reaction drives are generally superior to their human counterparts.

THE SLAVER WAR

Initially, first contact with the Sung went surprisingly well. Of all species encountered by humanity, they have the greatest similarities in thought processes and culture. The differences, however, would prove to be the spark that touched off the first interstellar war between humans and an intelligent alien species.

The Sung home system is unusual, with two habitable worlds. The first, the Sung homeworld itself, is on the inner edge of the habitable zone of the primary. The other, a world that came to be called Motherhome, circled a superjovian world (Ssusinas) which orbited just barely outside the habitable zone. Between the close proximity to the star and the heat generated from internal processes of Ssusinas, the gas giant-facing side of the planet-sized moon was cool but habitable. It was during research on this world that a glaring cultural difference came to light.

The practice of Sos-Soon-Atkacharr, which roughly translates as ‘obligations of conquest’, decrees that the loser in war must serve the victor. This servitude lasts until the winner has raised the other side to their cultural and technological levels; until they are equals. The intelligent natives of Ssusinas’s moon had no concept of ‘service’ or ‘progress’, so they simply went along with the Sung. Since they did not care about joining the Sung, under Sos-Soon-Atkacharr, they were forever servants or, in actuality, slaves. For their part, the Sung saw nothing wrong with this.

When a Canadian research team made the discovery that the ‘beasts of burden’ on the moon were an intelligent species bound in slavery, the outcry on Earth was enormous. Canadian and Manchurian fleets, acting in concert, journeyed to the moon and gave the Sung an ultimatum: ‘Free your slaves, or we will do it for you.’ The Sung refused and the result was six months of warfare, and the virtual destruction of 90% of Sung spacecraft and orbital infrastructure.

Human losses were minimal and the Sung learned a hard lesson; conventional spacecraft are no match for stutterwarp ships.

The landing operation did not go as well. Even with no hope of reinforcement, Sung troops fought viciously and tenaciously. Descended from predators, Sung favour sudden attacks and fades back into the wilderness. They were not above inflicting atrocities either and human forces suffered disproportionate losses on the ground. It was only when human ships delivered an ultimatum to the homeworld, and followed that up with a series of artillery strikes to prove intent, that the Sung forces on Motherhome finally surrendered.

STARGLIDER SPACEPLANE

NATION: Akcheetoon (Sung)

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Akcheetoon Aerospace Group 7

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 19 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Sung

NUMBER IN SERVICE: Unknown

LENGTH: 22 m

WIDTH: 12 m

WINGSPAN: 18 m

LAUNCH MASS (FULLY FUELLED): 375 tons

POWER PLANT: 0.2 MW Fuel Cell

REACTION DRIVE: Air-Breathing Rocket, 1,500 tons thrust

TAKE-OFF ROLL: 400 m

LANDING ROLL, UNPOWERED: 900 m

LANDING ROLL, POWERED: 300 m

MAXIMUM AIRSPEED: High Hypersonic

CRUISING AIRSPEED: High Hypersonic

ENDURANCE: 1 Hour per Burn

The StarGlider is an absolute workhorse of a design, used for interface transport of people and cargo. It is a large capacity delta-winged airframe, designed for the lower gravity of Stark and Motherhome, and equipped with an air-breathing rocket that is as efficient as human-built MHD thrusters.

The StarGlider has an additional three Burns of fuel for orbital operations and extended atmospheric operations.

TL12		Tons	Cost (MLv)
Hull	50-ton Synthetic Airframe	—	1.3
Hull Features	Advanced, Heat Shield, VTOL	1	2.6
Reaction Drive	Rocket (advanced, air-breathing)	1.5	1.875
Power Plant	Fuel Cell (Power 2)	0.14	0.86
Emergency Power	0.5 Power, for 24 hours	0.012	0.012
Fuel Tanks	Rocket (6 Burns)	12	—
	Power Plant (18 hours)	0.0324	—
Radiators	Conventional, Capacity 3	0.3	0.015
Bridge	Flight Deck, with Neural Link	3	0.375
Computer	Primary: Computer/10fib Secondary: Computer/5fib	—	0.095
Sensors	Minimal	—	—
Systems	Safety Locker, Simple Freshers x2	0.5	0.06
Airlocks	Standard Airlock	—	—
Accommodations	Acceleration Couches x80	20	2.4
Software	Archive, Intellect, Manoeuvre	—	1
Life Support Consumables	5 days for 10 people	0.1	—
Cargo		11.41	—
Total: MLv9.54			

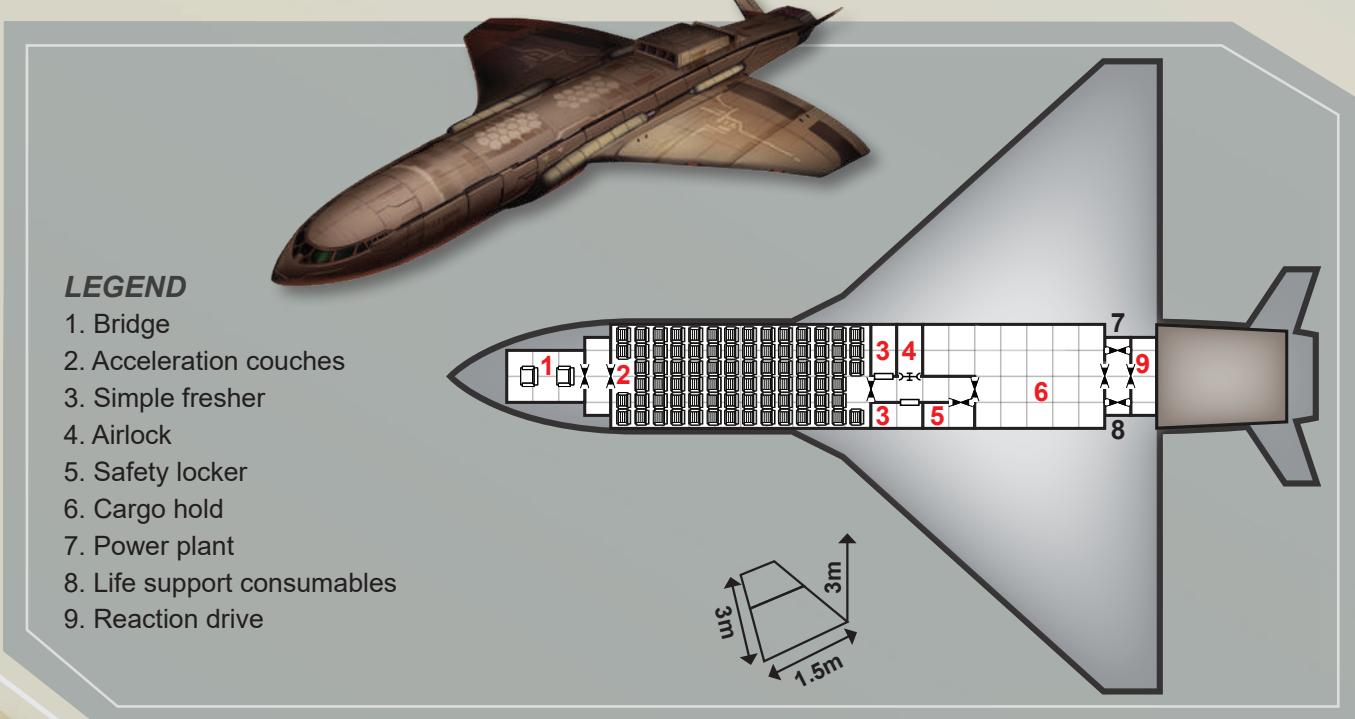
Crew	Passengers	Hull Points	Signature: 1
Captain, Astrogator, Flight Engineer, Pilot, Sensor Tech	80	5	Base Reflected: 1, Base Radiated: 1

Running Costs

Maintenance Cost: Lv794/month
Purchase Cost: MLv9.53

Power Requirements

Basic Ship Systems	0.5
Sensors	1

Power

RAPTOR AEROSPACE FIGHTER

NATION: Akcheetoon

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Akcheetoon Aerospace Group 5

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 48 Days

SERVICE STATUS: In Service

FLEETS OF SERVICE: Akcheetoon

NUMBER IN SERVICE: Unknown

LENGTH: 14.5 m

WIDTH: 5 m

WINGSPAN: 6 m

TAKE-OFF MASS (FULLY FUELLED): 190.5 tons

POWER PLANT: 4 MW MHD Turbine

REACTION DRIVE: Air-Breathing Rocket, 750 tons thrust

ATMOSPHERIC FLIGHT SPEED (STANDARD DENSITY/

PRESSURE): 12,000 km/h

TAKE-OFF ROLL: 175 m

LANDING ROLL, UNPOWERED: 300 m

LANDING ROLL, POWERED: 100 m

MAXIMUM AIRSPEED: High Hypersonic

CRUISING AIRSPEED: Hypersonic

ENDURANCE: 1 Hour per Burn

Empty Spaces

There is an idea that the empty bay in both the Raptor and the newer Empires is meant to house a stutterwarp drive. Should Sung gain access to stutterwarp technology, that would upset the balance of power across the Manchurian Arm.

The Raptor is a new design, with the first dozen entering service with Akcheetoon in 2298. Human scans of these vessels have detected an empty cavity at the heart of the vessel, forward of MHD turbine and the power system is oversized for the mounted weapons. Any Sung who have been asked about the cavity has stated that it is a weapon bay, albeit rather small.

The Raptor is designed to operate from a Size 7 world, although it can lift from Stark as well. It has an additional Burn of fuel for orbital operations, extended atmospheric operations. This additional Burn also allows it to lift from Stark without a booster.

TL12		Tons	Cost (MLv)
Hull	25-ton Synthetic Lifting Body	—	0.7
Hull Features	Advanced, Heat Shield, VTOL	0.9	1.3
Armour	2	0.4	0.08
Reaction Drive	Rocket (advanced, air-breathing)	0.5	0.625
Power Plant	MHD Turbine (40 Power)	3.33	1.83
Fuel Tanks	Rocket (3 Burns) Power Plant (15 hours)	3 0.9	— —
Radiators	Conventional, Capacity 40	4	0.2
Bridge	Dual Cockpit, with Neural Link	2.5	0.225
Computer	Primary: Computer/20fib Secondary: Computer/15fib	—	3.5
Sensors	Minimal	—	—
Weapons	Lightning Spear Laser Array (retractable),UTES Anti-Missile Laser (retractable mount), Gatling Laser (retractable mount), Light Anti-Aircraft Missiles (retractable mounts) x8	2 5.4	1.25 4.064
Targeting	UTES (+1), Targeting Computer (+1)	—	—
Systems	Sling (3 tons)	0.15	0.03
Airlocks	Standard Airlocks x0	—	—
Software	Archive, Intellect, Manoeuvre, Neural Interface, Fire Control/1	—	4
Cargo		2.32	—
Total: MLv16.03			

Crew	Passengers	Hull Points	Signature: 2
Primary Node	—	2	Base Reflected: 0, Base Radiated: 2

Running Costs

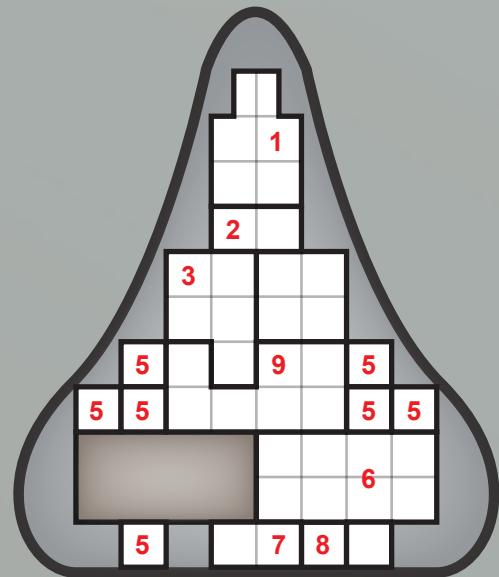
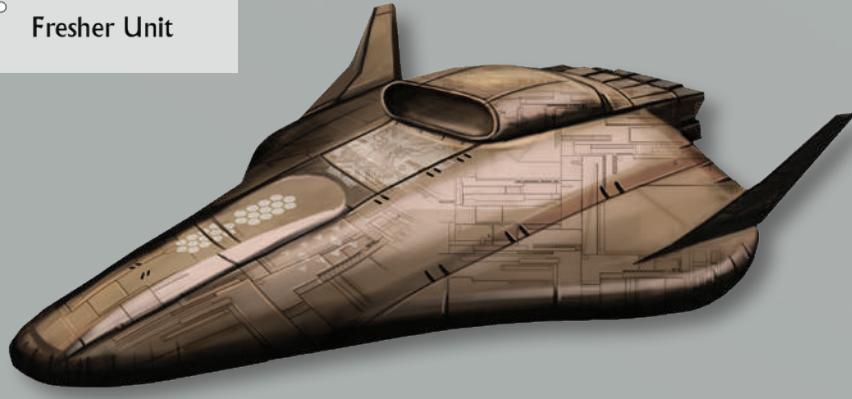
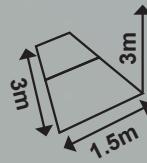
Maintenance Cost: Lv1336/month
Purchase Cost: MLv16.03

Power Requirements**Power**

Basic Ship Systems	0.25
Sensors	1
Weapons	28

- Chair
- Acceleration Chair
- Bunk
- Lift
- Iris Valve
- Iris Valve Floor
- Iris Valve Ceiling
- Iris Valve Both

- Machinery
- Cold Berth Unit
- Access Panel
- Hatch
- Hatch Floor
- Hatch Ceiling
- Hatch Both
- Fresher Unit

**LEGEND**

1. Bridge
2. Anti-missile laser
3. Cargo hold
4. Laser array
5. Anti-aircraft missiles
6. Radiators
7. Gattling laser
8. Reaction drive
9. Power plant

EMPIRE SYSTEM DOMINANCE VESSEL

NATION: Akcheetoon

FIRST EXAMPLE LAID DOWN: Unknown

MANUFACTURER: Akcheetoon Dynamic Engineering Group 17

PRODUCTION STATUS: In Production

CONSTRUCTION TIME: 300 Days (estimated)

SERVICE STATUS: In Service

FLEETS OF SERVICE: Akcheetoon

NUMBER IN SERVICE: 11 (9 lost in action)

LENGTH: 65 m

WIDTH: 21 m

LAUNCH MASS: 4,500 tons (estimated)

POWER PLANT: 29 MW MHD Turbine, 10 MW Solar Array

REACTION DRIVE: Advanced OMS Rocket, 6,000 tons thrust, Advanced Ion Propulsion System, 250 tons thrust

The Empire is typical of the designs that faced the combined Canadian-Manchurian fleet during the Slaver War. There have been few advances since then, as Sung reaction drive technology is about as advanced as it can get without venturing into very exotic territory. They have learned from watching human vessels and tactics, however, and targeting systems are greatly improved.

This ship is armed with a mix of railguns, lasers and short-range, high-impulse missiles.

The missiles use a mix of hyper-velocity fragmenting warheads and bomb-pumped lasers similar to human submunitions. Some newer versions replace railguns with particle beam weapons and the Sung are starting to field advanced laser arrays. These newer vessels look like they have been engineered to more effectively fight human ships, a fact worrying to Manchurian and Canadian military planners.

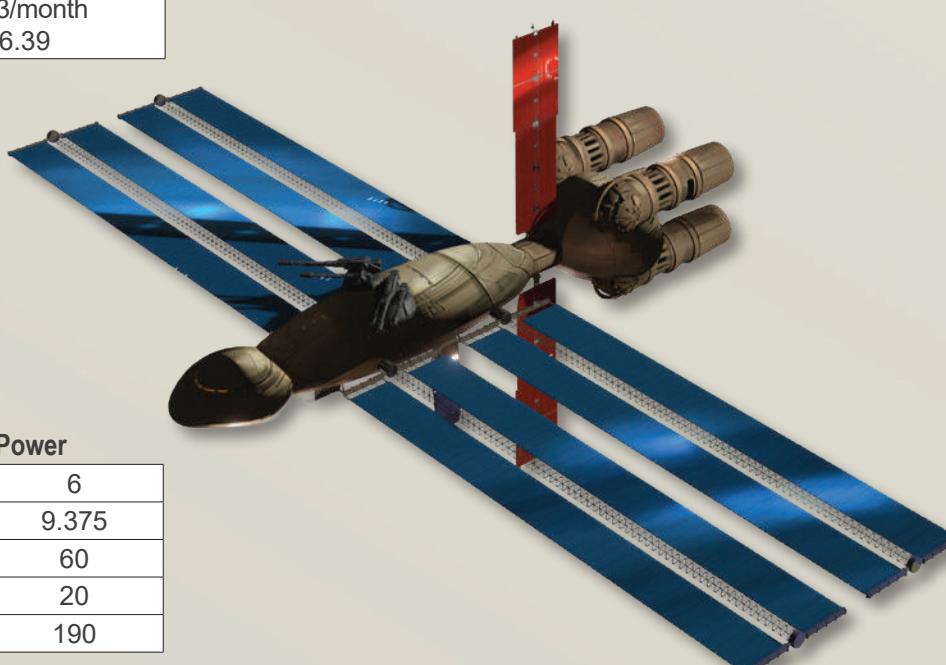
Like the Raptor, the newer Empires have a large empty bay, forward of the MHD turbine. Sung officials claim it is a swappable mission bay, and can house weapons, electronics or sensors for the vessel's rail guns to operate in an artillery role. This potential need for artillery weapons has never been explained to anyone's satisfaction. Some observers suspect that this might be in case the opportunity arises to retake the Xiang homeworld.

Crew	Passengers	Hull Points	Signature: 4
Captain, Bridge Officers x2, Astrogators x3, Flight Engineers x3, Pilots x3, Sensor Techs x3, Reaction Drive Engineers x3, Stutterwarp Engineers x3, Power Engineers x6, Life Support Techs x3, Electronics Techs x3, Gunners x14, Security x2, Ship's Troops x20, Medics x3, Steward Comfort Rating: 0 (-2 for humans)	—	72	Base Reflected: 4 Base Radiated: 3 Spin Hab Retracted: -1

Running Costs

Maintenance Cost: Lv13033/month

Purchase Cost: MLv156.39



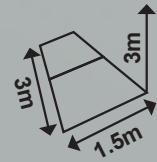
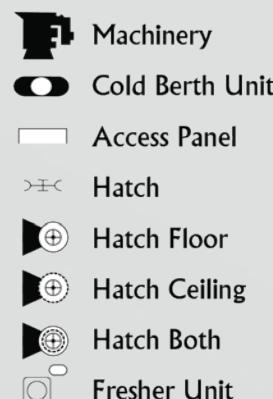
Power Requirements

Power

Basic Ship Systems	6
Endurance Life Support	9.375
Ion Drive	60
Sensors	20
Weapons	190

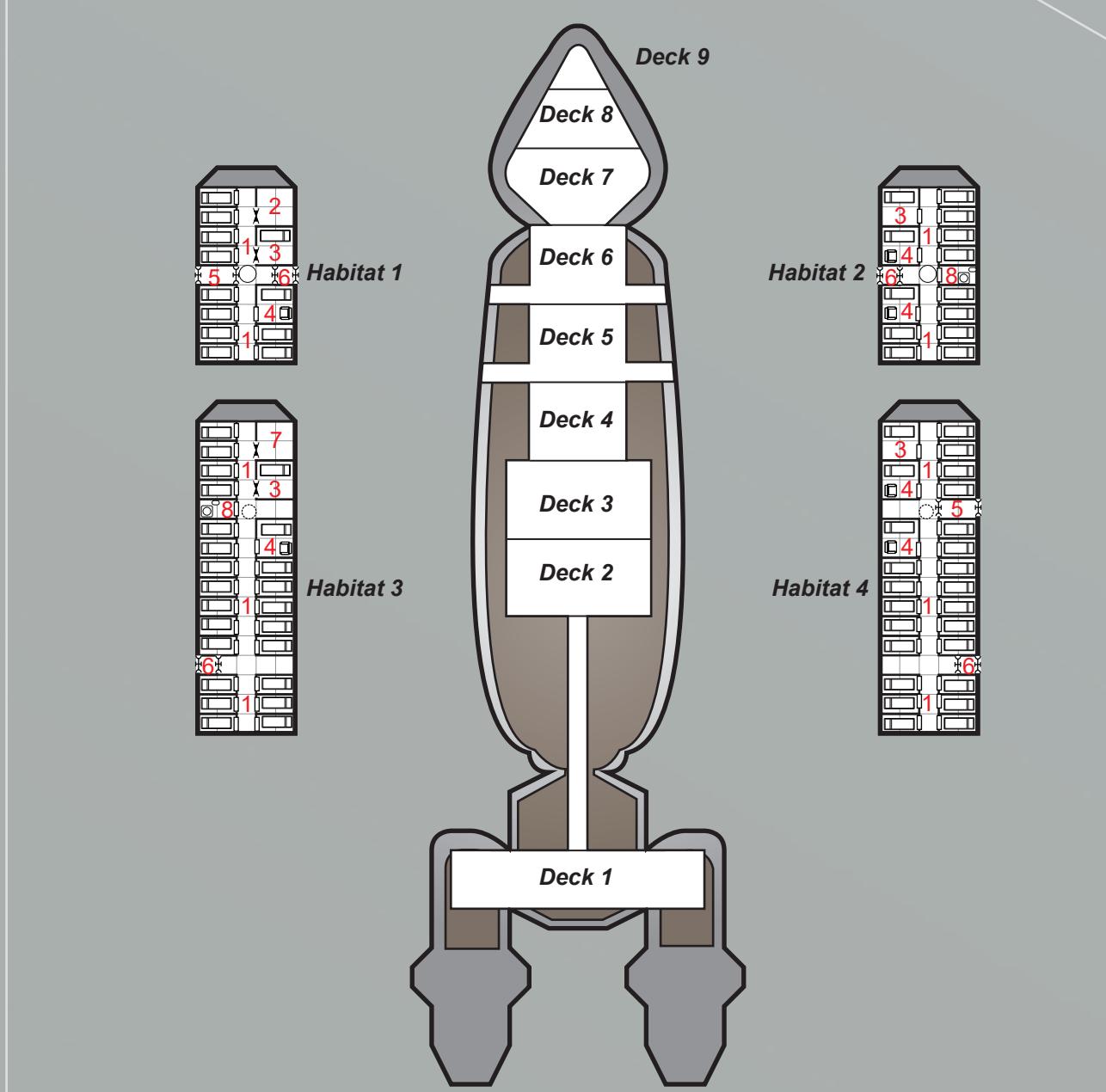
TL12		Tons	Cost (MLv)
Hull	600-ton Synthetic Spaceframe	—	14.4
Hull Features	Advanced	—	12
Armour	Fibre-Reinforced Ice Armour 6	—	3.6
Reaction Drive	Sung OMS Rocket (advanced)	9.6	10.8
Deep Space Drive	Advanced Ion Drive	6	18
Power Plant	MHD Turbine (Power 290), Solar Panels (Power 100)	30.83	16.63
Emergency Power	6 Power, for 24 hours	0.144	0.144
Fuel Tanks	OMS Rocket (8 Burns)	151.2	—
	Power Plant (1 week)	72.5	—
	Ion Drive Reaction Mass (300 days)	45	—
Radiators	Conventional, Capacity 290	29	1.45
Bridge	Standard, with Neural Link, Encrypted Comms, Laser Comm	20.5	10.5
Computer	Primary: Computer/25fib Secondary: Computer/20fib	—	7.5
Sensors	Advanced Military, DSS, Telescope, Telescope	9	13.5
Weapons	Lightning Spears x2 with UTES, Fast Hammers x2 with UTES, Starhammers x2	24	11.3
Targeting	UTES (+1)	—	—
Tactical Action Centre	10 Personnel (command, gunners x7, sensor operators x2)	10	1
Systems	Under Spin: Armoury, Exercise Equipment for 12, Automeds x4	32.32	9.12
	Zero-G: Common Areas (20 tons), Safety Lockers x2, Simple Freshers x4, Workshop		
	Sling (300 tons), Breaching Tube	17	5
Drones and Remotes	Communications Satellites x8, Inspection Remotes x5, Navigation Satellites x12, Repair Remotes x8	4.675	8.9175
Airlocks	Standard Airlocks x6, Sortie Airlocks x10, Small Cargo Airlock	9	0.14
Accommodations	Under Spin: Small Staterooms x6, Sleepers x70	82	1.3
Artificial Gravity	Type: Extendable Spin Capsules (95.28 tons Under Spin)	15.72	15.72
	Radius: 30 m, 3 RPM, Gravity: 0.3 G, Spin Up/Down: 18 minutes		
Software	Archive, Auto-Repair/1, Fire Control/1, Intellect, Manoeuvre, Neural Interface	—	9
Life Support Consumables	1 years for 75 people	5.48	—
Cargo		5.78	—
Total: MLv156.39			

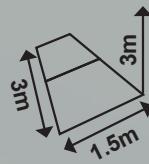
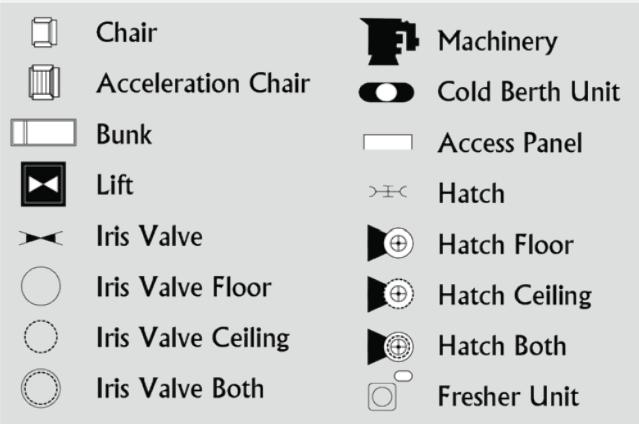
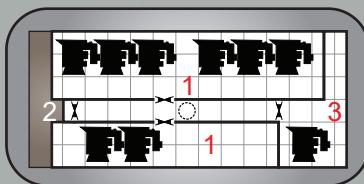
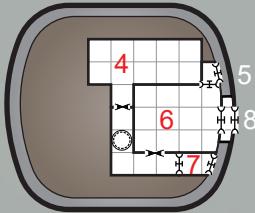
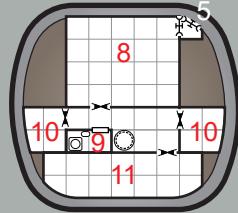
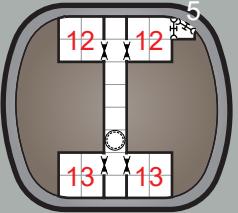
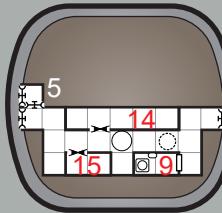
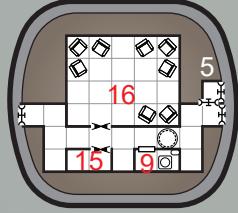
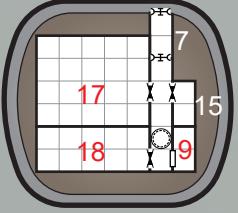
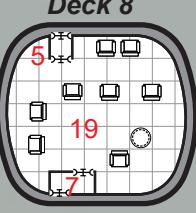
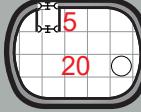
EMPIRE SYSTEM DOMINANCE VESSEL



LEGEND

- Sleepers
- Exercise room
- Medbay
- Small stateroom
- Airlock
- Sortie airlock
- Armoury
- Fresher



*Deck 1**Deck 2**Deck 3**Deck 4**Deck 5**Deck 6**Deck 7**Deck 8**Deck 9***LEGEND**

- | | | |
|-----------------------------|------------------------|----------------------------|
| 1. Reaction drive | 7. Airlock | 14. Workshop |
| 2. Emergency power | 8. Small cargo airlock | 15. Ship's locker |
| 3. Deep space drive | 9. Fresher | 16. Common area |
| 4. Life support consumables | 10. Star hammers | 17. Tactical action centre |
| 5. Sortie airlock | 11. Breaching tube | 18. Drones |
| 6. Cargo hold | 12. Light spears | 19. Bridge |
| | 13. Flat hammers | 20. Sensors |

VEHICLES

Several vehicles are commonly associated with the ships and are often carried on board.



AUROCH WHEELED IFV

The Auroch is the standard wheeled IFV with French forces and is deployed to most colonial theatres. Since conditions can vary greatly from world-to-world, and hovercraft like the Bessieres are very sensitive to atmospheric and gravitational differences, the tracked IFV powered by a gas turbine is the most operationally flexible choice.

TL	12
Skill	Drive (wheel)
Agility	+1
Speed (cruise)	Medium (Slow)
Range (cruise)	660 (990)
Crew	2
Passengers	12
Cargo	125 kg
Hull	87
Shipping	11 tons
Cost	MLv1.35

Armour

Front	46
Sides	40
Rear	34

Traits	AFV, ATV
Equipment	Anti-Missile System (laser), Aquatic Drive, Autopilot (basic), Communications System (improved), Computer/3, Control System (advanced), Decoy Dispenser, Fire Extinguishers, Life Support (short term), Navigation System (improved), Smart Wheels, Smoke Discharger, Winch (heavy)
Weapons	<ul style="list-style-type: none"> Small Turret (40mm rotary autocannon, Aero-12 missiles x3, medium machinegun) Fixed Mount (medium machinegun, forward)

Equipment

Autopilot (skill level)	2
Communications (range)	1,000 km
Navigation (Navigation DM)	+2
Sensors (Electronics (sensors) DM)	+1
Camouflage (Recon DM)	-2
Stealth (Electronics (sensors) DM)	-1



Weapon	Range	Damage	Magazine	Magazine Cost	Traits
40mm Rotary Autocannon	2	7D	1,000	Lv400	Auto 15
Aero12	4	8D	1	Lv14600	AP 16, One Use, Smart
Medium Machinegun	0.5	4D	500	Lv125	Auto 10
Laser Anti-Missile System	1	2D	—	—	Auto 4

BATTLEAXE TRACKED IFV

The Battleaxe is the standard star-mobile IFV in Manchuria. It has been in use since the early days of the Central Asian War in defence of their colonies. Military units on Earth are equipped with heavier, better-protected vehicles, however.

It is equipped with four firing ports that can accommodate the standard Wu-Beijing Type 49 assault carbine without modification.

TL	12
Skill	Drive (tracked)
Agility	+1
Speed (cruise)	Slow (Very Slow)
Range (cruise)	600 (900)
Crew	3
Passengers	10
Cargo	125 kg
Hull	51
Shipping	6.375 tons
Cost	Lv300000

Armour	
Front	51
Sides	30
Rear	25

Traits	AFV, ATV
Equipment	Autopilot (improved), Camouflage (basic), Communications System (basic), Fire Extinguisher, Hostile Environment Protection, Life Support (short term), Navigation System (basic), Sensors (basic)
Weapons	<ul style="list-style-type: none"> Small Turret (25mm autocannon) Small Turret (tac missile pod) Firing Ports x4

Equipment	
Autopilot (skill level)	+1
Communications (range)	50 km
Navigation (Navigation DM)	+1
Sensors (Electronics (sensors) DM)	0
Camouflage (Recon DM)	+1
Stealth (Electronics (sensors) DM)	—



Weapon	TL	Range	Damage	Magazine	Magazine Cost	Traits
25mm Autocannon	6	1	6D	500	Lv500	AP10, Auto 10
Tac Missile Pod	10	6	8D	4	Lv6000	AP 10, Smart

KAEFER CRAWLER

The Crawler is bigger and better protected than the more common Bugbus and seems to fill more of an actual IFV role compared to the Bugbus, which appears to be more of a scout vehicle. The small Llama lander cannot carry a Crawler, which must be landed by the much larger Lima.

TL	12
Skill	Drive (Tracked)
Agility	-2
Speed (cruise)	Medium (Slow)
Range (cruise)	600 (900)
Crew	2
Passengers	18
Cargo	112.5 tons
Hull	39
Shipping	12 tons
Cost	Lv155000

Armour

Front	44
Sides	37
Rear	34

Traits	AFV, ATV
Equipment	Camouflage (basic), Communications System (basic), Life Support (short term), Navigation System (basic), Winch (medium)
Weapons	<ul style="list-style-type: none"> Small Turret (beamer, 12.1mm machinegun)

Equipment

Autopilot (skill level)	—
Communications (range)	50 km
Navigation (Navigation DM)	+1
Sensors (Electronics (sensors) DM)	—
Camouflage (Recon DM)	-1
Stealth (Electronics (sensors) DM)	—



Weapon	TL	Range	Damage	Magazine	Mag Cost	Traits
12.1mm Machinegun	6	2	4D	1,000	Lv800	AP 2, Auto 5
Beamer	11	1	5D	20	Lv2000	AP 12, Blast 5

KAEFER DEATHSLED

The Deathsled is a monster hovercraft, bristling with weapons. It is equipped with a turret-mounted mass driver with rear-facing missile launcher and a commander's cupola with a beamer facing one way and an autocannon and machinegun facing the other. Captured vehicles indicate four crew positions: a driver, commander, gunner and a fourth crew position known to humans as 'the kibitzer'.

TL	12
Skill	Drive (hover)
Agility	+1
Speed (cruise)	High (Medium)
Range (cruise)	700 (1,050)
Crew	4
Passengers	0
Cargo	62.5 kg
Hull	84
Shipping	14 tons
Cost	MLv1.53

Armour

Front	95
Sides	80
Rear	65

Traits	AFV
Equipment	Anti-Missile System (minigun), Camouflage (basic), Communications System (improved), Control System (enhanced), Explosive Belt, Hostile Environment Protection, Life Support (short term), Navigation System (improved), Sensors (advanced)
Weapons	<ul style="list-style-type: none"> Large Turret (101.2mm mass driver) Small Turret (12.1mm machinegun, 22.2mm autocannon, beamer) Modular Mount (Kingfisher missiles x2)

Equipment

Autopilot (skill level)	—
Communications (range)	500 km
Navigation (Navigation DM)	+1
Sensors (Electronics (sensors) DM)	+3
Camouflage (Recon DM)	-1
Stealth (Electronics (sensors) DM)	—



Weapon	TL	Range	Damage	Magazine	Mag Cost	Traits
12.1mm Machinegun	6	2	4D	1,000	Lv800	AP 2, Auto 5
22.2mm Autocannon	6	1	6D	500	Lv500	AP 5, Auto 5
101.3mm Mass Driver	12	2	5DD	62	Lv6000	AP 40
Beamer	11	1	5D	20	Lv2000	AP 12, Blast 5
Kingfisher Missile	10	4	6D	1	Lv15000	AP 16, One Use, Smart
Minigun Anti-Missile System	11	1	1D	1,000	Lv2000	Auto 10

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Lima Lander



Golf Fighter

2300AD

SHIPS OF THE FRONTIER

The 33 colony worlds and countless outposts of human space are scattered across a 100 light-year diameter volume of space, along three intricate and complex Arms of stars and anchorages that allow starships to hop from star to star, 7.7 light-years at a time.

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