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Golden Age Starships 3 Archaic Small Craft, Launches and Gigs

Traveller HERO

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Archaic Small Craft,
Launches and Gigs

TRAVELLER HERO

GOLDEN AGE STARSHIPS 3: ARCHAIC SMALL CRAFT, LAUNCHES AND GIGS

FOR TRAVELLER HERO

BASED ON THE AWARD-WINNING TRAVELLER GAME SYSTEM AND UNIVERSE BY MARC MILLER

Golden Age Starships 1: Fast Courier is set in the Official Traveller Universe. As such it is compatible with either the official Hard Times – Collapse – Recovery – New Era timeline or an alternate wherein the assassination of Emperor Strephon does not occur.

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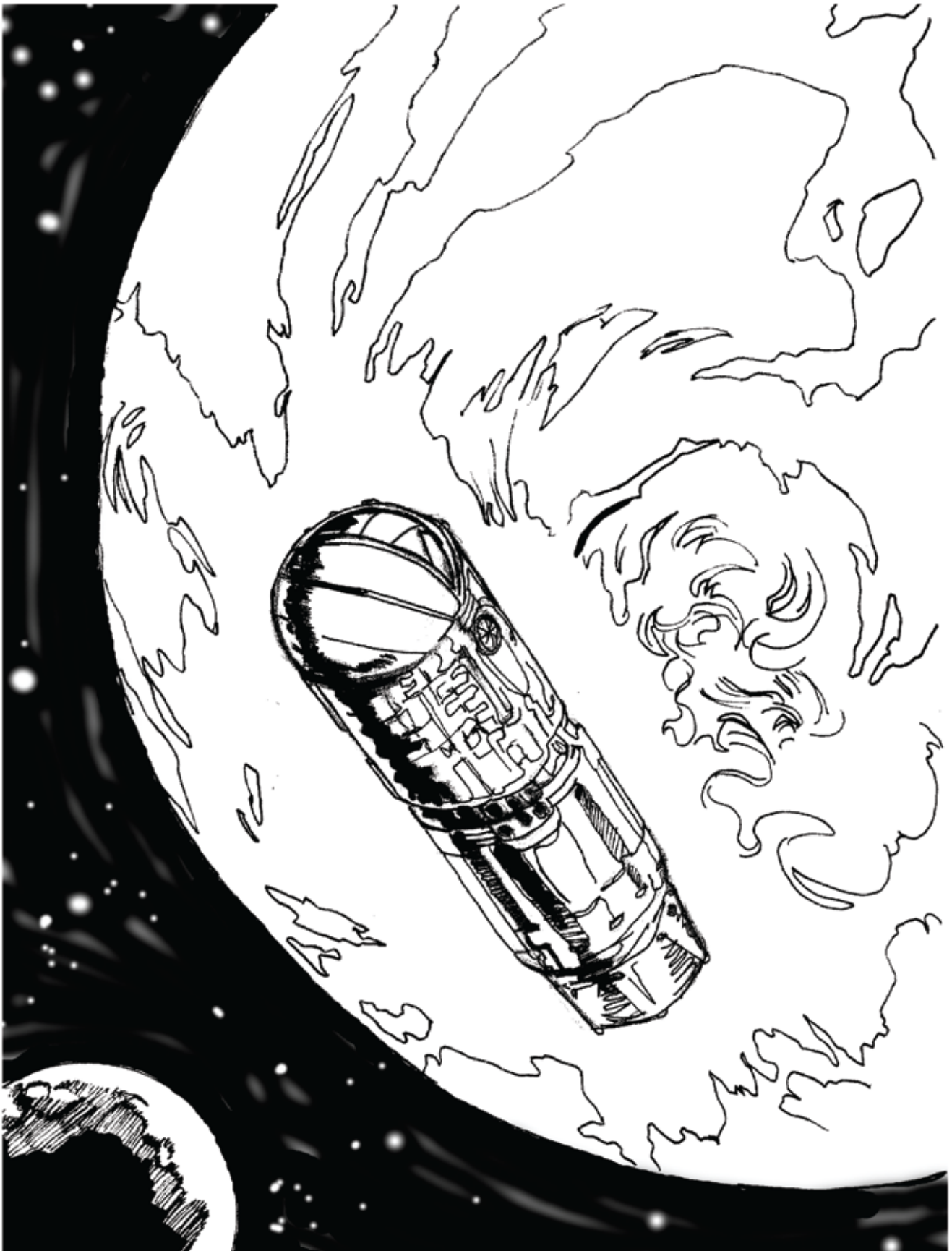
INTRODUCTION

The first section covers extensions to the *High Guard* starship design sequence and vehicle design sequence to allow Traveller players to design “archaic” TL-6-8 rocket propelled small craft, including small space capsules, planetary landers, space stations and rocket launch vehicles. Some example craft are presented, including deckplans. This section will be particularly useful in the post-Third Imperium 1248 Milieu where technologically regressed societies abound. In some cases those regressed societies may only have access to data on primitive rocket power, despite having a nominal tech level of 7-8. Therefore they may use rockets as opposed to the standard maneuver drives found at those same tech levels.

The second section covers 10 and 20 ton small craft, including deckplans and variants on the standard craft. Classic Traveller statistics are included. While the small craft in this book are defined using those statistics, the statistics and deckplans may be used with little modification for Traveller games based on other Traveller rule sets. Full deckplans are included, as are adventure seeds based around the small craft in this booklet.

Future editions of “Golden Age Starships” will cover slow boats, ship’s boats, pinnaces, cutters and shuttles.

A standard Launch begins a regular passenger/freight journey to a colony on a nearby moon.



TL 6-8 ARCHAIC SMALL CRAFT and LAUNCH VEHICLES FOR HIGH GUARD

Low Tech small craft are uncommon in TL-9+ star systems, but can be commonly encountered in TL6-8 systems and are sometimes used in higher tech systems due to their very low cost. The small craft outlined below can be used in virtually any situation and can provide an interesting diversion from encounters with the usual high tech small craft. Because of their low tech rocket drives these craft may be encountered reasonably frequently in the 1248 environment.

The rocket drive has the following High Guard characteristics:

1/4-G Drive: TL 6, 2% of ship's volume, MCr0.5 per ton of drive

1/2-G Drive: TL 6, 4% of ship's volume, MCr0.5 per ton of drive

1-G Drive: TL 6, 8% of ship's volume, MCr0.5 per ton of drive

2-G Drive: TL 6, 12% of ship's volume, MCr0.5 per ton of drive

Fuel is consumed by rocket drives at an enormous rate:

1/4-G Drive: 1% of ship's volume per minute of thrust

1/2-G Drive: 2% of ship's volume per minute of thrust

1-G Drive: 4% of ship's volume per minute of thrust

2-G Drive: 8% of ship's volume per minute of thrust

A powerplant is not required for rocket drives, but a powerplant of some kind must be installed if the ship/launch vehicle has a crew. Pure launch vehicles do not require a powerplant - batteries

are assumed to provide power for communication and guidance systems for the 10 minute ascent into orbit, and this power source is included in the cost and volume of the computer system.

Several archaic power systems are available, in addition to the fission and fusion drives listed in High Guard.

A craft that has a crew, but does not have a standard fission or fusion High Guard powerplant, requires 0.01EP per 10 tons of habitable volume (or fraction thereof) to run its electrical, computer, communications and life support systems.

Various archaic power systems are listed below.

ARCHAIC CRAFT POWER SOURCES

Power Source	TL	Size (tons)	Cost	EP generated (per hour)	Fuel
Crude Fuel Cells	7	0.1	Cr100,000	0.01	0.01 tons of hydrogen/oxygen
Solar Panels	7	0.2*	Cr200,000	0.01	Sunlight
Radiothermal Fission	7	0.1	Cr500,000	0.01	Core replacement every 3 years

Only one "set" of solar panels may be attached per 10 tons of spacecraft.

Fuel cells convert hydrogen and oxygen into water, creating electricity as a byproduct. As long as there is a constant flow of oxygen and hydrogen to the fuel cell, it will keep generating electricity. For every 0.1 ton of fuel cells installed, those fuel cells require 0.01 tons of hydrogen/oxygen fuel per hour of operation. 0.01 EP is output per hour.

Solar panels generate continuous power, but are limited in the amount of EP they generate and there is a limit to the size of solar arrays that can be fitted to a spacecraft. Solar panels can be folded and unfolded. Solar Panels are popular because they provide continuous power, but do not

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provide that power when the craft is in darkness, so a battery pack is included with the solar panels to provide continuous power when the sunlight is occluded. The batteries are recharged by the solar panels. The power output is for the habitable zone of a star. For each orbit further from the star the craft is in, drop the power output by 1/4. One orbit out is 1/4 power, two is 1/16, three is 1/64. For the one orbital zone closer to the star from the habitable zone, increase power output by x4. Power output cannot increase by more than x4 regardless of how close to the star the spacecraft is.

Radiothermal fission generators have a slow-decaying radioactive core which generates heat and is converted to electric power. The radioactive core needs to be replaced every 3 years.

Computers, Bridges And New Fittings

Under High Guard rules either a computer or a small craft bridge are required to be installed. Archaic small craft operate under the same rules, but another, smaller computer type is also available as a substitute for standard computers listed in High Guard. This computer system includes crude guidance, sensor and communications systems. This computer system cannot control any weapons.

Type	TL	Volume	Cr	Capacity
Small Craft Computer	6	0.1	Cr500,000	1/1

In addition, two new High Guard components are listed below.

Type	TL	Volume	Cr	Notes
Fresher	6	0.25	Cr25,000	Showering and toilet facility
Galley	6	0.25	Cr25,000	Allows for preparation and storage of food

If an archaic small craft is not fitted with a small craft stateroom or stateroom, it must have a

Fresher if flight durations are to last more than 48 hours. A galley need only be fitted if the small craft is to undertake flights of more than 7 days.

LAUNCH VEHICLES

Launch vehicles are rockets designed to boost payloads into orbit. They are designed using the rocket drive and have the following special characteristics.

Launch vehicles must be streamlined cone or wedge configuration.

Launch vehicles require a rocket drive with a G rating of 1.5 times the surface gravity of the world or greater. For instance, for a size 8 world, a 2-G rocket drive is required. No powerplant is required for a rocket drive. Staging is assumed in the cost - ie: at least 2 stages must be specified when the design is created.

Fuel is required for 10 minutes to boost the payload into orbit.

Launch vehicles do not require a bridge or manning, but do require a computer system to ensure the rocket has a controlled ascent. The small craft computer listed above is sufficient to control necessary systems.

If the rocket is designed to be reusable a parachute system must be installed for the weight of the Launch Vehicle. The parachute system takes up 2% of the volume of the Launch Vehicle and costs Cr10,000 per ton of parachute system installed.

A payload shroud is required for any payloads that are not themselves fully streamlined. So a partially streamlined or unstreamlined payload will require a payload shroud. The payload shroud includes the explosive devices necessary to separate the payload shroud and expose the payload. The volume of the shroud is assumed to be part of the outer hull of the launch vehicle.

Launch Vehicles have a cargo volume, being the maximum payload a launch vehicle can deliver into low orbit. The payload capacity is determined by the volume left after fuel, rocket drive, computer and parachute system have been deducted.

The amount a Launch Vehicle can lift into geostationary orbit is 30% of close orbit payload. The balance of the payload volume (the remaining 70%) is taken up by a rocket transfer vehicle that orbits with the payload and then boosts the payload into geostationary orbit. For escape velocity, the payload is 10% of close orbit payload.

Archaic Small Craft and Descent

Archaic small craft must be partially or fully streamlined in order to perform unpowered descents into atmospheres. Only a portion of the small craft need be partially or full streamlined in order to undertake the descent (this represents a crew return capsule). The portion returning through the atmosphere must also have an armored hull Factor-1 or higher, which represents ablative shielding. Such an armored hull is not necessary for descents into atmosphere 0 or 1 worlds.

An archaic small craft must have a rocket drive and fuel for retro-burns to enable re-entry, as well as maneuvering in space. The amount of burn time required for a re-entry task is determined by the type of atmosphere the vehicle will enter. For an atmosphere 0 or 1 world, the vehicle needs to have sufficient fuel for a 10 minute fuel burn (at the same G required to make an ascent from that world) to maintain controlled descent. A parachute system cannot be used for descents into atmosphere 0 or 1 worlds. For atmospheres 2+, the vehicle must use an aerobraking maneuver, using atmospheric drag to reduce speed to ensure a parachute landing. The fuel and thrust requirement for a retrofire for aerobraking descent

is 1 minute at 1-G, or a two minute burn at 1/2-G (or 30 seconds at 2-G). The size of the retro-firing engine is irrelevant. The length of the burn is. For example, the Soviet Union's Vostok spacecraft had a powerful retro-firing rocket that only needed to burn for 45 seconds, while the Soviet Soyuz spacecraft had a small rocket which meant the burn time was 3 minutes 14 seconds. The same amount of fuel is required to deceleration into orbit around another planet or moon.

For normal maneuvering operations in space, 1 minute of fuel per 7 days of intended operation is required. So a small craft designed for 14 days operation would have 2 minutes of fuel for the rocket drive, plus 1 minute at 1-G for deceleration and descent. Small craft required to break orbit require an additional 5 minutes of fuel times the gravity of the planet being broken free from, at 1-G to undertake this maneuver. So a small craft with a 1/2-G rocket drive trying to break free from a Size-4 world (0.5 gravity) would require 5 minutes of fuel at 1/2-G. If the small craft was fitted with a 1-G drive, 2.5 minutes of fuel would be required.

The parachute system takes up 2% of the ship's volume, at a cost of Cr10,000 per ton of parachute system. Configuration 1 or 0 ships do not require a parachute system – they are assumed to glide to landings on runways. But such ships still require a rocket drive and sufficient fuel for the retro-burn.

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Example Launch Vehicle: Saturn 1B Rocket (Terra, 1961-1975 AD)

This two-stage rocket was used by the United States of America to launch Earth-orbit Apollo missions for the lunar program and Skylab program. This variation on the original design includes a parachute system to allow recovery of the Launch Vehicle.

Saturn 1B	Size	Cost	EP	Notes
150-ton streamlined Cone	+150	MCr16.5	-	2 Stage
2-G Rocket Drive	-18	MCr9	-	
Rocket Fuel (10 minutes)	-120	-	-	10 mins required for orbital insertion
Small Craft Computer	-0.1	MCr0.5	-	
Parachute system	-3	MCr0.03	-	
Low Orbit Payload	8.9 dtons	-	-	Geostationary orbit payload: 2.67dtons
Totals	150	MCr26.03 (MCr20.824 with 20% volume discount)		

SATURN 1B ROCKET HERO STATISTICS

Val	Char	Cost	Notes
15	Size	75	Length 32", Width 16", Area 512" Mass 3.3 kton KB -15
85	STR	0	Lift 3.3ktons; 17d6
10	DEX	0	OCV 3 DCV -7
25	BODY	0	
8	DEF	18	
5	SPD	30	Phases: 3, 5, 8, 10, 12 Total Characteristic Cost: 109

Movement: Flight: 72" / 1152"

Cost	Powers	END
26	Flight 72", x16 Noncombat (159 Active Points); Fuel Dependent (fuel is Uncommon; must refuel Once per 20 Minutes; Fuel is very expensive or difficult to obtain; -2), OAF Immobile (-2), Crew-Served ([3-4] people; -1/2), 1 Continuing Fuel Charge lasting 20 Minutes (-1/4), Difficult to Operate (-1/4)	[1 cc]
4	Radio Perception/Transmission (Radio Group) (10 Active Points); OIF Bulky Fragile (-1 1/4)	0
9	Life Support (Safe Environment: Zero Gravity; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (20 Active Points); OIF Bulky (-1), Custom Modifier (Real Equipment; -1/4)	0
	Skills	
3	Navigation (Air, Marine, Space) 11- (8 Active Points); OIF Bulky Fragile (-1 1/4)	

Total Powers & Skill Cost: 42

Total Cost: 151

Total Disadvantage Points: 151

Example Launch Vehicle: Pathfinder Rocket, (Illelish Sector, 1248)

This small disposable solid fuel rocket is used to loft small satellites into orbit and is being manufactured on worlds close to the border of the 4th Imperium. The Pathfinder plans are sold to many worlds who require unmanned satellite launch capability. A few dictatorships have converted the Pathfinder to military use, probably as a means to launch nuclear weapons against adversaries.

Pathfinder Rocket	Size	Cost	EP	Notes
10-ton streamlined Cone	+10	MCr1.1	-	3 Stage
2-G Rocket Drive	-1.2	MCr0.6	-	
Rocket Fuel (10 minutes)	-8	-	-	10 mins required for orbital insertion
Small Craft Computer	-0.1	MCr0.5	-	
Low Orbit Payload	0.7 dton	-	-	Geostationary orbit payload: 0.21dton
Totals	10	MCr2.2 (MCr1.76 with 20% volume discount)		

Example Archaic Small Craft: 3 Man Low Orbit Spacecraft

This cheap archaic small craft relies on solar panels for electricity, and carries 3 people in extremely cramped conditions on limited journeys of up to 7 days. A fresher is included, which represents galley and The ancient Terran equivalent was the Russian Soyuz spacecraft, which was actually 3.3dtons. The craft has enough fuel for up to 2 weeks maneuvering as well as a de-orbit burn.

3 Man Low Orbit Spacecraft TL-7	Size	Cost	EP	Notes
3 ton semi-streamlined Close 1/2-G Rocket Drive	+3	MCr0.18	-	
Rocket Fuel (5 minutes)	-0.12	MCr0.06	-	
Small Craft Computer	-0.3	-	-	
3 Small Craft Couches	-0.1	MCr0.5	-	
Solar Panels	-1.5	MCr0.075	-	
Armored Hull Factor-1	-0.06	MCr0.06	0.003	
Parachute system	-0.24	MCr0.096	-	
Fresher	-0.06	MCr0.0006	-	
Cargo	-0.25	MCr0.025	-	
Totals	-0.37dtons	-	-	
		MCr0.9966 (MCr0.79728 with 20% volume discount)		

Example Archaic Small Craft: 3 Man Moon-Transfer Spacecraft

This archaic small craft is based on the Apollo spacecraft used in ancient Terran times to transfer Terrans to their moon. The spacecraft is long ranged (for its time), carries 3 people for missions up to two weeks, and relies on fuel cells for power. There is enough fuel for 2 weeks of maneuvering, one de-orbit burn, one retro burn for transfer into the moon's orbit, and an escape velocity burn from the moon's orbit (ie: a total of 7.5 minutes of fuel at 1/2-G, assuming the moon is size-1).

3 Man Moon-Transfer Spacecraft	Size	Cost	EP	Notes
8 ton semi-streamlined Cylinder	+8	MCr0.8	-	
1/2-G Rocket Drive	-0.32	MCr0.16	-	
Rocket Fuel (8 minutes)	-1.28	-		
Small Craft Computer	-0.1	MCr0.5	-	
3 Small Craft Couches	-1.5	MCr0.075	-	
Fuel Cells	-0.08	MCr0.08	0.008	
Fuel for Fuel Cells (2 weeks)	-2.688		-	
Armored Hull Factor-1	-0.64	MCr0.256	-	
Parachute system	-0.16	MCr0.0016	-	
Fresher	-0.25	MCr0.025	-	
Galley	-0.25	MCr0.025	-	
Cargo	-0.732	-	-	
	dtons			
Totals	8	MCr1.9226 (MCr1.53808 with 20% volume discount)		

TL-7 Space Exploration Vehicle (SEV)

This 12 ton design is an attempt by low tech societies to provide an exploration spacecraft to explore low orbit and nearby moons. It is not designed to land on planets, rather it is designed for pure space travel. Fitted with a bridge of sorts and a small cabin, the SEV is cramped, especially with its normal crew of three. Typical mission profile consists of a rocket boost from orbit to either a higher orbit or a nearby moon or space station. The engine need not be firing for all this time – it simply burns to accelerate the craft to the desired velocity, then executes a short retro-burn to slow the craft at the end of the journey. A Crew Return Vehicle (CRV) is carried, essentially a small capsule for returning crew members to their home planet through a re-entry and soft-landing procedure by parachute. CRV details are listed below.

The SEV consists of 4 main decks. The first deck is the control deck which contains the flight controls as well as the computer and life support systems. Communication and sensor systems are housed in the nose cone. The crew's acceleration couches are mounted with their backs on the “floor” of this deck. The second deck is the crew deck which contains the crews' zero-g sleeping sacks, the galley, and the ship's airlock. The third deck stores part of the rocket fuel supply and the CRV. The fourth deck contains the rocket drive, some fuel, cargo space and the solar panel mounts. The craft has a maximum mission duration of 3-4 weeks with the fuel load.

TL-7 Space Exploration Vehicle (SEV) – Short Range	Size	Cost	EP	Notes
12 ton semi-streamlined Cylinder	+12	MCr1.2		-
1-G Rocket Drive	-0.96	MCr0.48		-
Rocket Fuel (7 minutes)	-3.36	-		
Model/1 Computer	-1	MCr2	-	
3 Small Craft Couches	-1.5	MCr0.075	-	

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Solar Panels	-0.24	MCr0.24	0.012
Small Craft Stateroom	-2	MCr0.05	-
Crew Return Vehicle	-2	-	-
Galley	-0.25	MCr0.025	-
Cargo	-0.69	-	-
	dtons		
Totals	12	MCr4.07 (MCr3.256 with 20% volume discount)	

SHORT RANGE SEV HERO STATISTICS

Val	Char	Cost	Notes
10	Size	50	Length 10.08", Width 5.04", Area 50.8" Mass 102.4 ton KB -10
60	STR	0	Lift 102.4tons; 12d6
10	DEX	0	OCV 3 DCV -3
20	BODY	0	
8	DEF	18	
2	SPD	0	Phases: 6, 12 Total Characteristic Cost: 68

Movement: Flight: 36" / 576"

Cost	Powers	END
14	Flight 36", x16 Noncombat (87 Active Points); Fuel Dependent (fuel is Uncommon; must refuel Once per 20 Minutes; Fuel is very expensive or difficult to obtain; -2), OAF Immobile (-2), Crew-Served ([3-4] people; -1/2), 2 Continuing Fuel Charges lasting 5 Minutes each (-1/4), Difficult to Operate (-1/4)	[2 cc]
9	Life Support (Safe Environment: Zero Gravity; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (20 Active Points); OIF Bulky (-1), Custom Modifier (Real Equipment; -1/4)	0
4	Radio Perception/Transmission (Radio Group) (10 Active Points); OIF Bulky Fragile (-1 1/4)	0
18	Model 2 Starship Computer: Custom Power (18 Active Points)	0
13	Basic Short Range Sensors: Custom Power (13 Active Points)	1

Skills

3	Navigation (Air, Marine, Space) 11- (8 Active Points); OIF Bulky Fragile (-1 1/4)
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Total Powers & Skill Cost: 61

Total Cost: 129

Total Disadvantage Points: 129

TL-6 Crew Return Vehicle (CRV)

This small craft is designed with one purpose in mind: to return three crew through an atmosphere and parachute to either a land or sea landing. An ancient Terran equivalent would be the Soyuz descent module. A small fuel cell in the CRV provide power to life support and computer systems for the duration of the descent. The rocket fires in a retro burn for two minutes, slowing the craft to enable an aerobraking descent into the atmosphere. A parachute system enables landings into water or on land.

3 Man Crew Return Vehicle TL-7	Size	Cost	EP	Notes
2 ton streamlined Cone	+2	MCr0.22	-	-
1/2-G Rocket Drive	-0.08	MCr0.04	-	-
Rocket Fuel (2 minutes)	-0.08	-	-	-
Small Craft Computer	-0.1	MCr0.5	-	-
3 Small Craft Couches	-1.5	MCr0.075	-	-
Fuel Cell	-0.02	MCr0.02	0.002	-
Fuel for Fuel Cell	(3 hours)	-0.006	-	-
Armored Hull Factor-1	-0.16	MCr0.064	-	-
Parachute system	-0.04	MCr0.0004	-	-
Cargo	-0.014	-	-	-
	dtons			
Totals	2	MCr0.9194 (MCr0.73552 with 20% volume discount)		

CREW RETURN VEHICLE HERO STATISTICS

Val	Char	Cost	Notes
8	Size	40	Length 6.35", Width 3.17", Area 20.16" Mass 25.6 ton KB -8
50	STR	0	Lift 25.6tons; 10d6
10	DEX	0	OCV 3 DCV -2
18	BODY	0	
8	DEF	18	
2	SPD	0	Phases: 6, 12 Total Characteristic Cost: 44

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Movement: **Flight: 15" / 60"**

Cost	Powers	END
6	Flight 15", x4 Noncombat (35 Active Points); Fuel Dependent (fuel is Uncommon; must refuel Once per 20 Minutes; Fuel is very expensive or difficult to obtain; -2), OAF Immobile (-2), Crew-Served ([3-4] people; -1/2), 2 Continuing Fuel Charges lasting 1 Minute each (-1/2), Difficult to Operate (-1/4)	[2 cc]
4	Radio Perception/Transmission (Radio Group) (10 0 Active Points); OIF Bulky Fragile (-1 1/4)	
9	Life Support (Safe Environment: Zero Gravity; 0 Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (20 Active Points); OIF Bulky (-1), Custom Modifier (Real Equipment; -1/4)	

Rocket Fuel (20 minutes)	-0.6	-	-
Small Craft Computer	-0.1	MCr0.5	-
3 Small Craft Couches	-1.5	MCr0.075	-
Fuel Cells	-0.03	MCr0.03	0.003
Fuel for Fuel Cells (96 hours)	-0.288	-	
Fresher	-0.25	MCr0.025	-
Cargo	-0.172	-	-
	dtons		
Totals	3	MCr0.84 (MCr0.672 with 20% volume discount)	

Skills

3	Navigation (Air, Marine, Space) 11- (8 Active Points); OIF Bulky Fragile (-1 1/4)
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Total Powers & Skill Cost: 22

Total Cost: 66

Total Disadvantage Points: 66

TL-7 Lander

This 3-man vehicle is designed to land on atmosphere 0 or 1 worlds and can be carried by an SEV with enough cargo space. Crew will usually transfer to the Lander in orbit and descend to the surface of the target world for an exploration period of up to 96 hours (4 days). The Lander has 20 minutes of rocket fuel, enough to boost the Lander back into orbit from a size S or 1 world as well as the 10 minute controlled burn when descending. A small cargo hold enables the lander to carry scientific experiments, and possibly a small buggy for exploration. The hold can carry a maximum of about 680kg of cargo.

An ancient Terran equivalent is the Apollo Lunar Lander.

3 Man TL-7 Lander	Size	Cost	EP	Notes
3 ton un-streamlined Open	+3	MCr0.15	-	
1/4-G Rocket Drive	-0.06	MCr0.06	-	

RUNABOUT

TL8, MCr6.16, 10 tons. The Runabout is a small transfer craft used for errands that do not justify a launch or a 30 ton boat. Cheap to build and maintain, the Runabout is found engaged in the most menial tasks: checking highport exteriors for meteorite damage, assisting in EVAs, or transporting personnel between a highport and an orbital shipyard. They are rarely used for journeys longer than 1 day due to the lack of a small craft cabin. Runabouts are not usually found aboard starships as they are too small to be cost effective at carrying cargo or passengers on a regular basis.

Runabouts are typically available in two configurations: a utility version with room for 4 tons of cargo and 2 passengers and a passenger version with room for 10 passengers. It requires a crew of one, who must have Ship's Boat skill of one or higher.

10 Ton Runabout			
Runabout	RA-0201111-000000-00000-0		
MCr6.16 10 tons			
Crew=1 TL=8			
Passengers=2	Fuel=1	Cargo=4	EP=1
Agility=1 Couches=2			

RUNABOUT HERO STATISTICS

Val	Char	Cost	Notes
10	Size	50	Length 10.08", Width 5.04", Area 50.8" Mass 102.4 ton KB -10
60	STR	0	Lift 102.4tons; 12d6
13	DEX	0	OCV 4 DCV -2
23	BODY	0	
8	DEF	0	
2	SPD	0	Phases: 6, 12 Total Characteristic Cost: 36

Movement: Flight: 30" / 60"

Cost	Powers	END
	Ships Overall Construction Note: Configuration, Construction Materials, and Armor	
3	1) <i>Cylinder Hull Configuration</i> : (Total: 3 Active Cost, 3 Real Cost) +1 BODY (Real Cost: 1) plus +1 with Combat Piloting (Real Cost: 2) Note: Can Enter Atmosphere, Cost *1.25, Highly Manueverable	0
2	2) <i>Composite Laminate Hull</i> : (Total: 2 Active Cost, 2 Real Cost) +2 BODY (Real Cost: 2) Note: Standard Cost, TL-8	0
12	3) <i>Short range Civilain-9 Armor Package</i> : +6 DEF (18 Active Points); Ablative BODY Only (-1/2)	
	Engineering Section Note: Drives and Environmental Section	
26	1) <i>Manuever Drive-1</i> : (Total: 74 Active Cost, 26 Real Cost) Flight 30", Position Shift (65 Active Points); OIF Immobile (-1 1/2), Side Effects, Side Effect occurs automatically whenever Power is used (Dangerous Exhaust; -1), Crew-Served (2 crew; -1/4) (Real Cost: 17) plus +3 DEX (Real Cost: 9) Note: 1G Manuever Drive	0
104	<i>Ships Fusion Reactor</i> : Endurance Reserve (100 END, 100 REC) Reserve: (110 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Requires monthly refueling and maintenance; -1/4)	0
9	<i>Ships Emergency Power</i> : Endurance Reserve (25 END, 25 REC) Reserve: (27 Active Points); Custom Modifier (Backup Power Only; -1/2); REC: (25 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Backup System only; -1/2)	0
10	<i>Ships Life Support System</i> : LS (Immunity All terrestrial diseases and biowarfare agents; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (29 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1	<i>Ships Environmental Systems</i> : Change Environment 1" radius (5 Active Points); OIF Immobile (-1 1/2), Custom Modifier (only to provide lights, gravity, and temperature to ships interior; -1)	1

Tactical Systems Note: Offensive and Defensive Equipment

Operations and Command Section Note: Bridge, Sensors, and Commo

3	1) <i>Basic Starship Bridge</i> : (Total: 9 Active Cost, 3 Real Cost) Bureaucrats 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Systems Operation 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Security Systems 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1)	0
12	2) <i>Model 1 Starship Computer</i> : Custom Power (12 Active Points)	0

Golden Age Starships 3 Archaic Small Craft, Launches and Gigs HERO Edition

15	<i>Ships Sensors And Commo:</i> Multipower, 45-point reserve, (45 Active Points); all slots OIF Immobile (-1 1/2), Costs Endurance (-1/2) Note: Basic Sensor and Commo package required for all Starships and Spaceships	
1u	1) Radar (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (34 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	2) Infrared Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	3) Ultraviolet Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	4) High Range Radio Perception (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (27 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	5) <i>Laser/Maser Comm:</i> Mind Link , Any Willing Target (15 Active Points); OIF Immobile (-1 1/2), Only With Others Who Have Mind Link (-1), Costs Endurance (-1/2)	1
1u	6) +4 versus Range Modifier for Radio Group and Sight Group (12 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1

Other Ship Systems

0	1) <i>Accommodations:</i> Custom Power Note: 2 Small Craft Couches	0
0	2) <i>Cargo Space:</i> Custom Power Note: 3 tons	0

Variant

0	1) <i>Passenger Variant:</i> Custom Power Note: 7 Passengers, no Cargo	0
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Total Powers & Skill Cost: 203

Total Cost: 239

Total Disadvantage Points: 239

LAUNCHES

TL8, MCr13.6, 20 tons. The Launch is a small, slow vessel capable of fulfilling a wide range of roles from cargo and passenger transfer to lifeboat, search-and-rescue or starport utility work. Attempts to use a Launch as weapons platform are generally unsuccessful due to a lack of maneuverability, but the standard design includes a missile magazine and missile rack as standard. The magazine can double as extra cargo space if not carrying missiles.

Typically a Launch is capable of 1G acceleration, has an operational duration of 4 weeks before needing to refuel, and can carry approximately 7 tons of cargo. It requires a crew of one, who must have Ship's Boat skill of one or higher.

20 Ton Standard Launch

Launch QL-0201121-000000-00001-0 MCr13.6 20 tons

Crew=1 TL=8

Passengers=2 Fuel=1 Cargo=7 EP=1 Agility=1 Couches=2 Small Craft Stateroom=1

LAUNCH HERO STATISTICS

Val	Char	Cost	Notes
14	Size	70	Length 25.4", Width 12.7", Area 322.54" Mass 1.6 kton KB -14
80	STR	0	Lift 1.6ktons; 16d6
16	DEX	9	OCV 5 DCV -4
30	BODY	4	
6	DEF	3	
3	SPD	4	Phases: 4, 8, 12 Total Characteristic Cost: 76

Movement: Flight: 30" / 60"

Cost	Powers Construction	END
6	1) <i>Wedge Hull Configuration:</i> (Total: 6 Active Cost, 6 Real Cost) +2 BODY (Real Cost: 2) plus +2 with Combat Piloting (Real Cost: 4) Note: Can Enter Atmosphere, Cost *1.5, Highly Manueverable	0

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9 2) *Crystal Iron Hull*: (Total: 9 Active Cost, 9 Real Cost) +3 DEF (Real Cost: 9) **Note**: Standard Cost, TL-10, Ships Body +5%, May Add TSA

Engineering Section

24 1) *Manuever Drive-1*: (Total: 74 Active Cost, 24 Real Cost) Flight 30", Position Shift (65 Active Points); OIF Immobile (-1 1/2), Side Effects, Side Effect occurs automatically whenever Power is used (Dangerous Exhaust; -1), Costs Endurance (-1/2), Crew-Served (2 crew; -1/4) (Real Cost: 15) **plus** +3 DEX (Real Cost: 9) **Note**: 1G Manuever Drive

2 2) *Agility 1 Package*: (Total: 7 Active Cost, 2 Real Cost) +1 with DCV (5 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 1) **plus** Lightning Reflexes: +1 DEX to act first with All Actions (2 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 1)

28 3) *Power Plant*: Endurance Reserve (100 END, 25 REC) Reserve: (35 Active Points); OIF Immobile (-1 1/2), Crew-Served (2 crew; -1/4), Custom Modifier (only powers electrical devices; -1/4)

9 4) *Ships Emergency Power*: Endurance Reserve (25 END, 25 REC) Reserve: (27 Active Points); Custom Modifier (Backup Power Only; -1/2); REC: (25 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Backup System only; -1/2)

1 5) *Ships Environmental Systems*: Change Environment 1" radius (5 Active Points); OIF Immobile (-1 1/2), Custom Modifier (only to provide lights, gravity, and temperature to ships interior; -1)

10 6) *Ships Life Support System*: LS (Immunity All terrestrial diseases and biowarfare agents; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (29 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)

Operations and Command Section

9 1) *Cockpit Bridge*: (Total: 18 Active Cost, 9 Real Cost) +2 with Combat Piloting (4 Active Points); Costs Endurance (-1/2), Crew-Served (2 people; -1/4) (Real Cost: 2) **plus** +2 with Systems Operation (Radar, Radio) (6 Active Points); Costs Endurance (-1/2), Crew-Served (2 people; -1/4) (Real Cost: 3) **plus** +1 with All Combat (8 Active Points); Costs Endurance (-1/2), Crew-Served (2 people; -1/4) (Real Cost: 4)

9 *Sensors and Commo*: Multipower, 30-point reserve, (30 Active Points); all slots OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Costs Endurance (Only Costs END to Activate; -1/4)

1u 1) *Laser/Maser Comm*: Mind Link , Machine class of minds, Any Willing Target, Any distance (20 Active Points); OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Extra Time (Delayed Phase, -1/4), Costs Endurance (Only Costs END to Activate; -1/4)

1m 2) *Optical Telescope Arrays*: +10 versus Range Modifier for Sight Group (15 Active Points); OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Costs Endurance (Only Costs END to Activate; -1/4)

1u 3) HRRP (Radio Group), +3 to PER Roll, MegaScale (1" = 1,000 km; +1) (30 Active Points); OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Costs Endurance (Only Costs END to Activate; -1/4)

1u 4) Infrared Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Costs Endurance (Only Costs END to Activate; -1/4)

1u 5) Radar (Radio Group), MegaScale (1" = 1,000 km; +1) (30 Active Points); OIF Immobile (-1 1/2), Requires A Skill Roll (-1/2), Costs Endurance (Only Costs END to Activate; -1/4)

Talents

3 Absolute Range Sense

3 Absolute Time Sense

3 Bump Of Direction

4 Speed Reading (x10)

5 Eidetic Memory

Skills

3 +2 with Navigation (Air, Space) (7 Active Points); OIF Immobile (-1 1/2)

2 +1 with Combat Piloting

1 +1 with KS: Cargo Handling

0 *Autopilot*: TF: Personal Use Spacecraft

Optional Skills

4 1) +2 with Ranged Combat (10 Active Points); OIF Immobile (-1 1/2)

Total Powers & Skill Cost: 140

Total Cost: 216

200+ Disadvantages

0 Custom Disadvantage

Note: Crew of 2, Pilot and Engineer, 24 passengers, 10 cargo

16 Experience Points

Total Disadvantage Points: 216

Passenger-Cargo Transfer Launch

TL8, MCr13.12, 20 tons. The Passenger-Cargo Transfer version of the Launch is designed for relatively short transfers of passengers and cargo. Passenger-Cargo Transfer versions of the Launch are popular with subsidized merchants and other starships which primarily use them for orbital transfers of passengers and cargo. It requires a crew of one, who must have Ship's Boat skill of one or higher.

A variant of the Passenger-Cargo Transfer configuration replaces four of the acceleration couches with a small cabin.

20 Ton Passenger-Cargo Transfer Launch

PCT Launch QL-0201121-000000-00000-0
MCr13.12 20 tons

Crew=1 TL=8

Passengers=12 Fuel=1 Cargo=5 EP=1
Agility=1 Couches=12

20 Ton Garbage Scow

Garbage Scow QL-0201121-000000-00000-0
MCr12.64 20 tons

Crew=1 TL=8

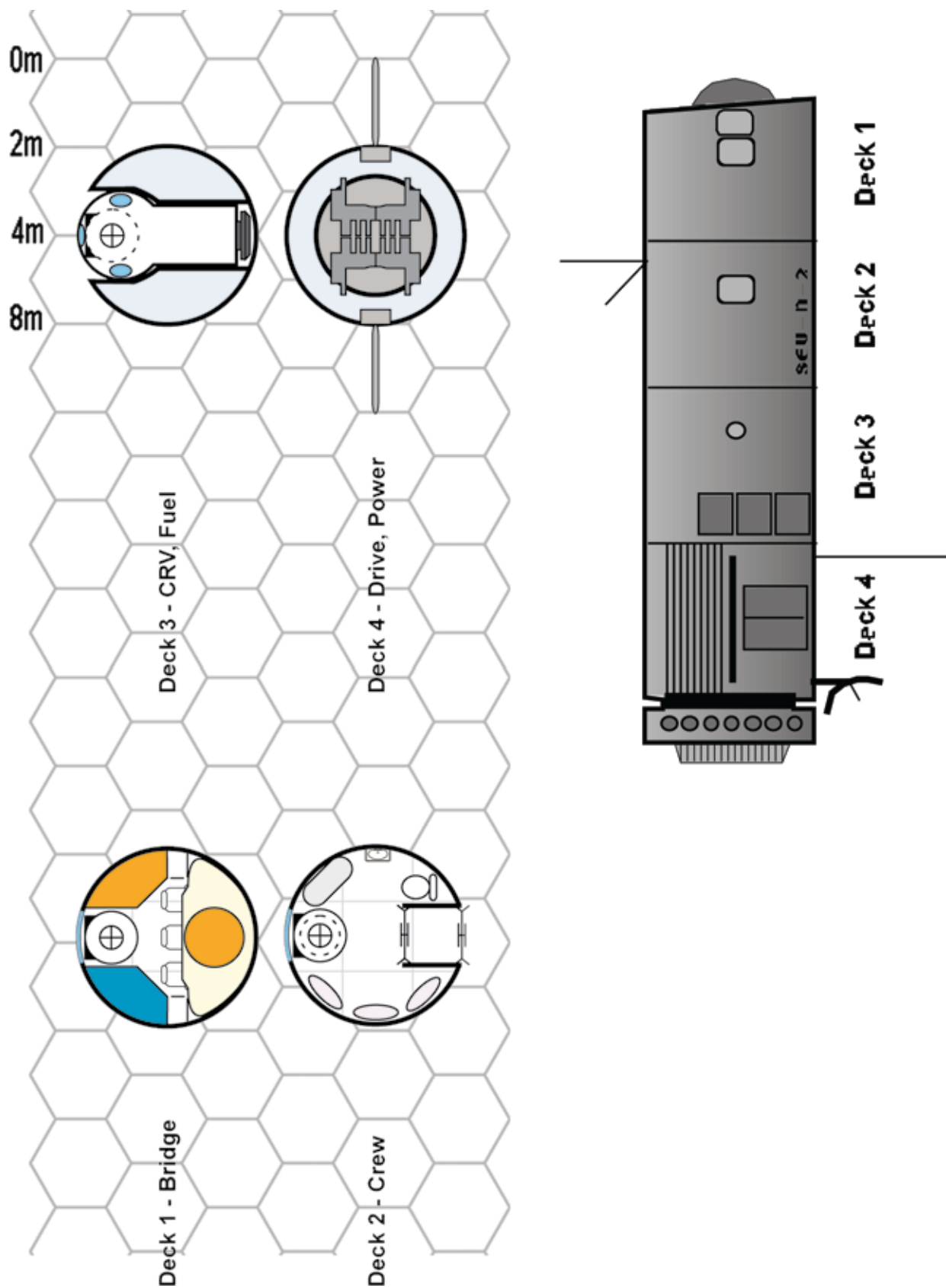
Fuel=1 Cargo=11 EP=1 Agility=1

Garbage Scow

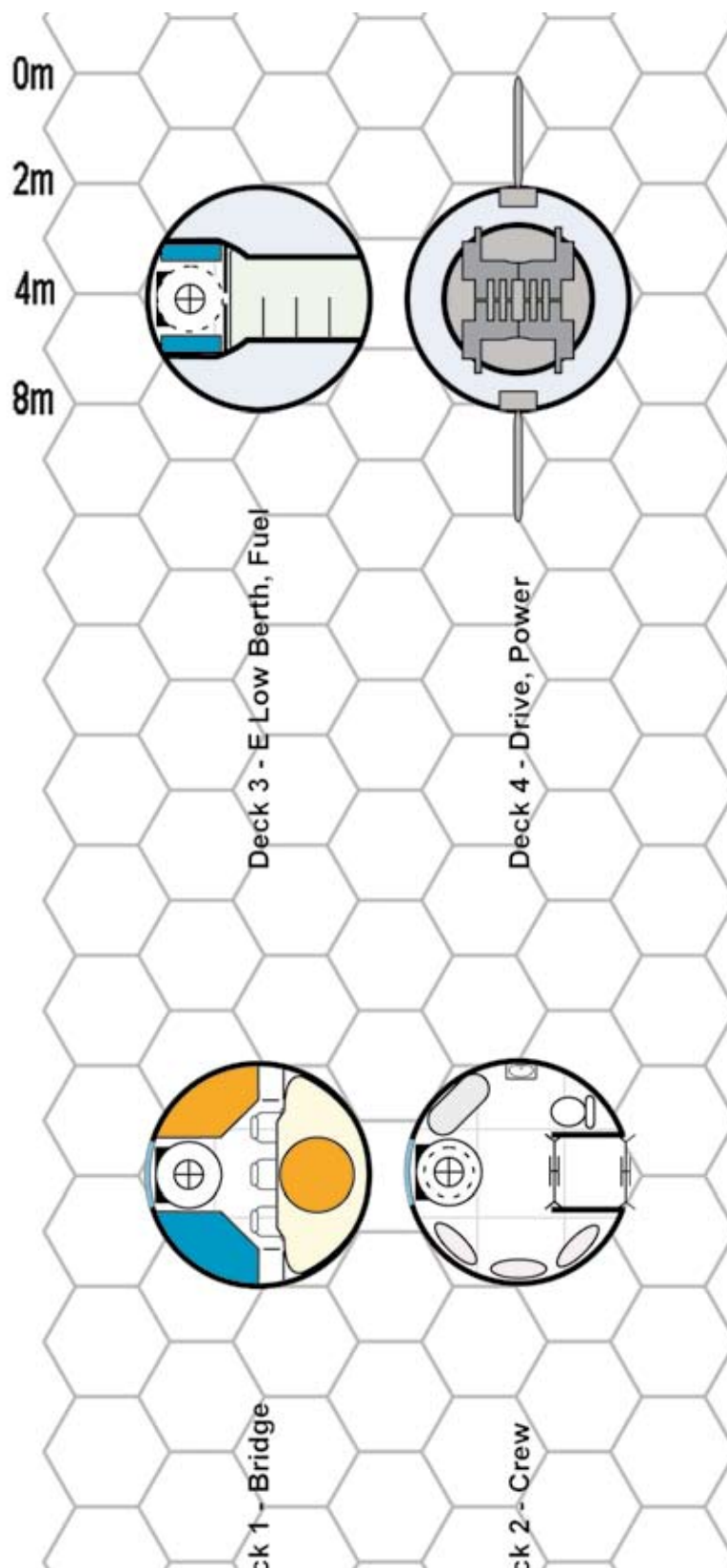
TL8, MCr12.64, 20 tons. At the end of their lives, launches are often converted into garbage scows with almost everything ripped out for pure cargo carrying capacity.

Nominally capable of 1G acceleration (though poor maintenance and age may have reduced performance), a garbage scow has an operational duration of 4 weeks before needing to refuel, and can carry approximately 11 tons of cargo. It requires a crew of one, who must have Ship's Boat skill of one or higher.

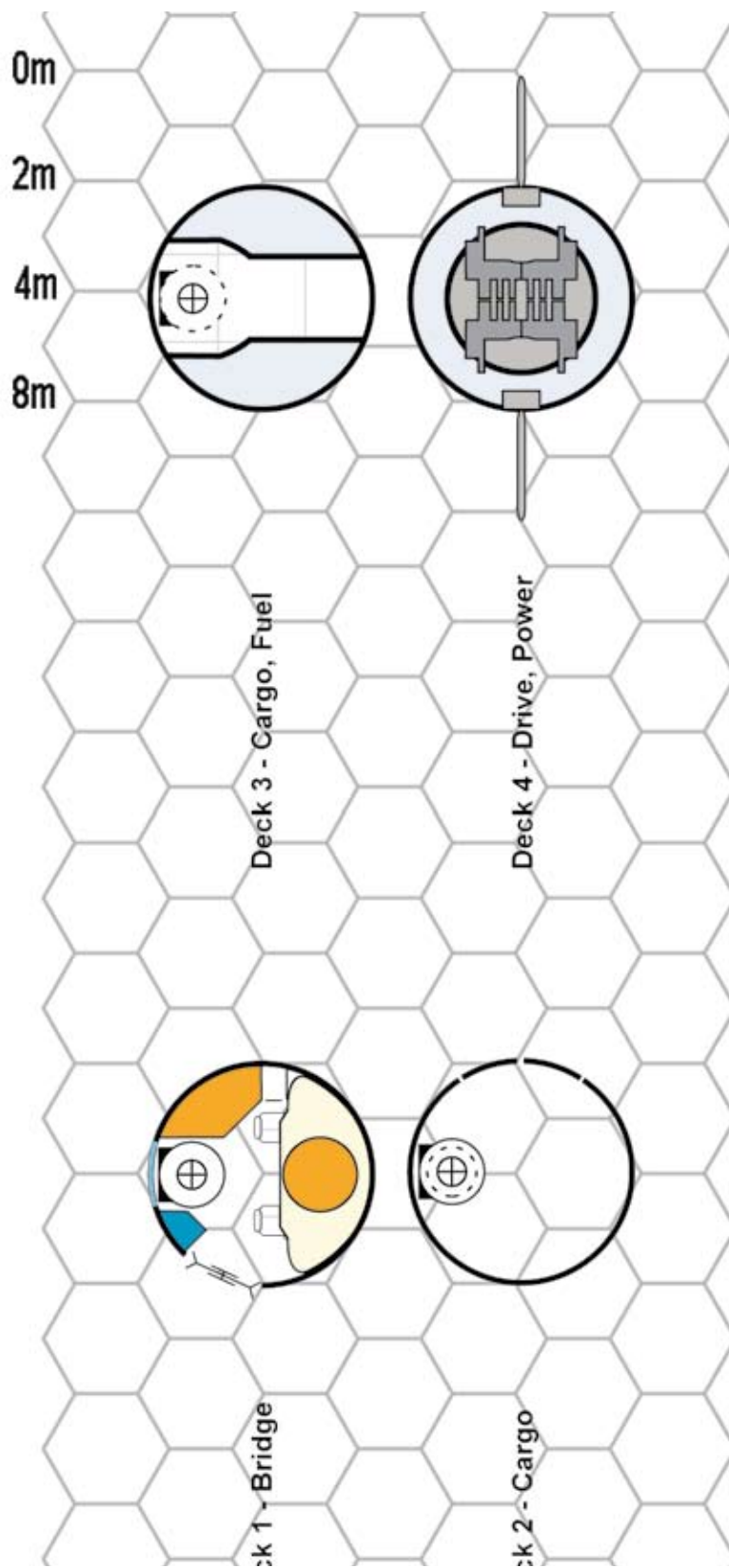
Standard SEV - short range



STANDARD SEV - LONG RANGE



STANDARD SEV - CARGO



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The Long-Range variant eliminates the CRV and replaces it with four low berths for 4 people. This enables a long range missions to be undertaken with the crew in cold sleep.

An unmanned Cargo variant (SEV-C) eliminates the small cabin and CRV, increasing cargo space to 4.69 dtons, enabling supplies, vehicles and landers to be carried for longer missions. Manned missions to other planets are usually undertaken by long range SEVs and cargo variants operating in unison, carrying sufficient supplies and vehicles for the mission.

Totals	12	MGr5.25 (MGr4.2 with 20% volume discount)
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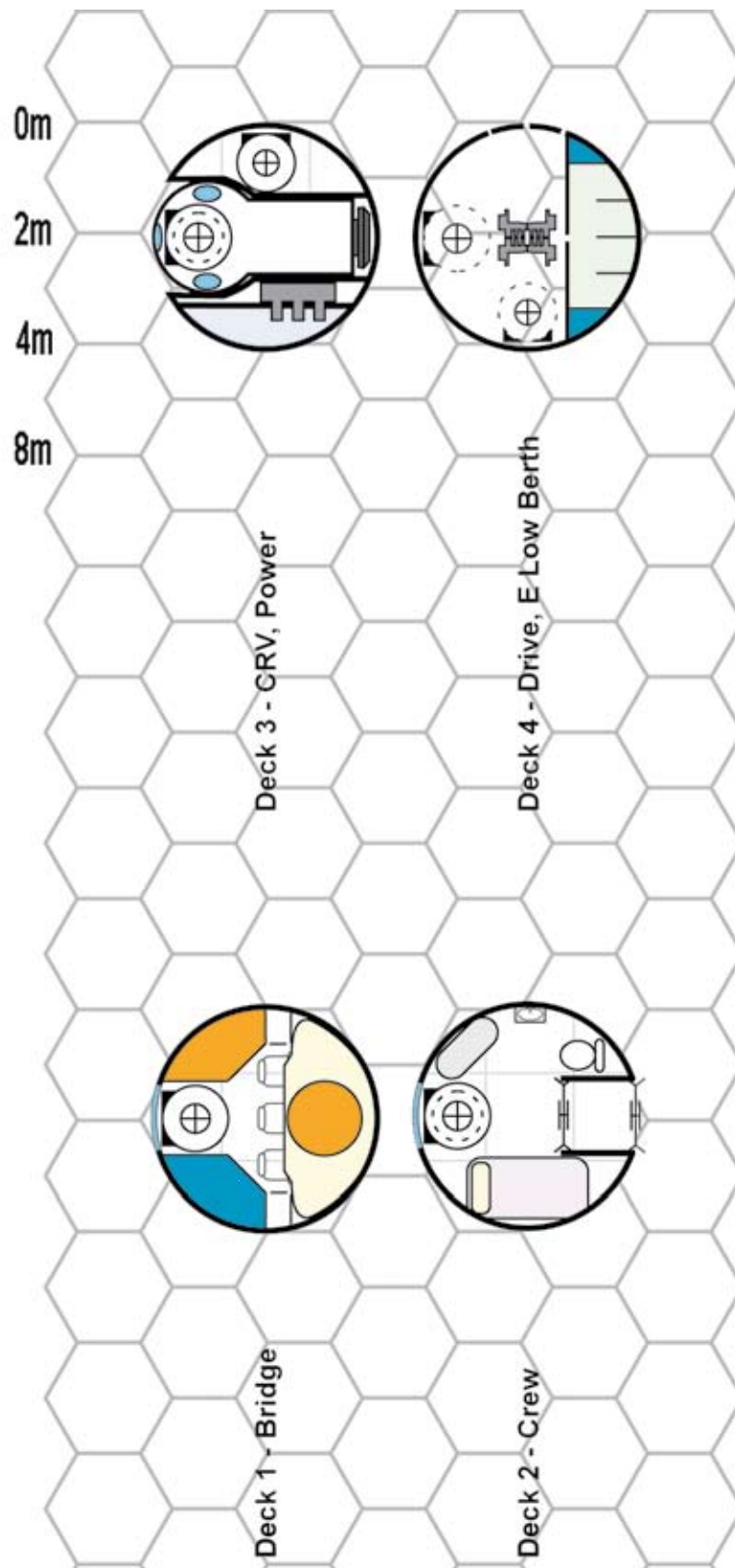
The cargo variant of the SEV-N has no small cabin, CRV or emergency low berth, increasing cargo capacity to 7.93 tons.

TL-7 Space Exploration Vehicle - Nuclear (SEV-N)

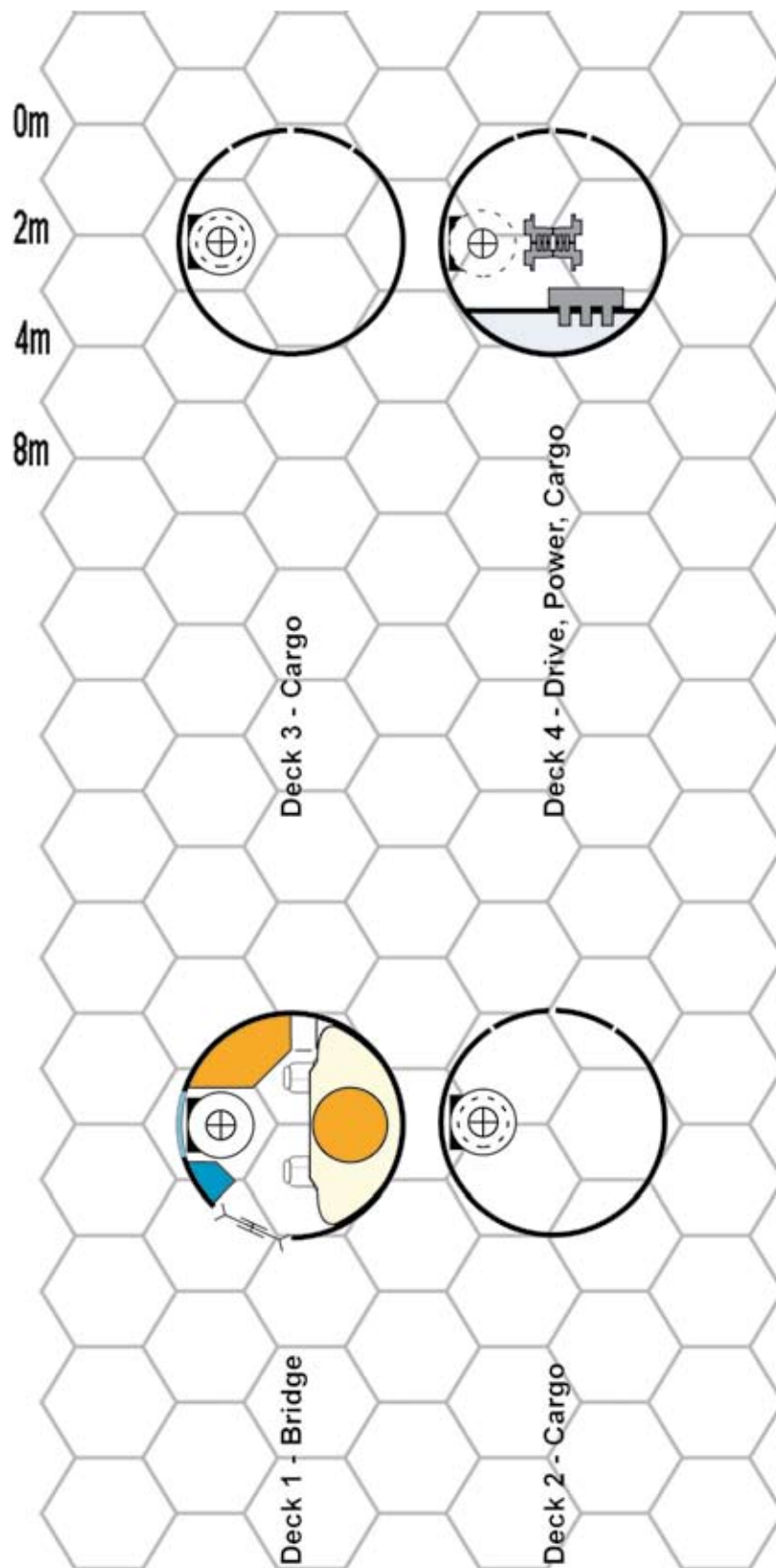
The advent of fission technology at TL-7 is not without its dangers, but the use of such technology in spacecraft eliminates many problems associated with fuel consumption and range. This variant of the SEV also sports standard 1-G maneuver drives. The nuclear powered version has more cargo space and contains an emergency low berth for long-duration missions.

TL-7 Space Exploration Vehicle - NUCLEAR (SEV-N)	Size	Cost	EP	Notes
12 ton semi-streamlined Cylinder	+12	MGr1.2	-	
1-G Maneuver Drive	-0.24	MGr0.36	-	
Powerplant-1	-0.48	MGr1.44	+0.12	
Powerplant Fuel (20 weeks)	-0.6	-	-	
Model/1 Computer	-1	MGr2	-	
3 Small Craft Couches	-1.5	MGr0.075	-	
Small Craft Stateroom	-2	MGr0.05	-	
Crew Return Vehicle	-2	-	-	
Galley	-0.25	MGr0.025	-	
Emergency Low Berth	-1	MGr0.1		
Cargo	-2.93 dtons	-	-	

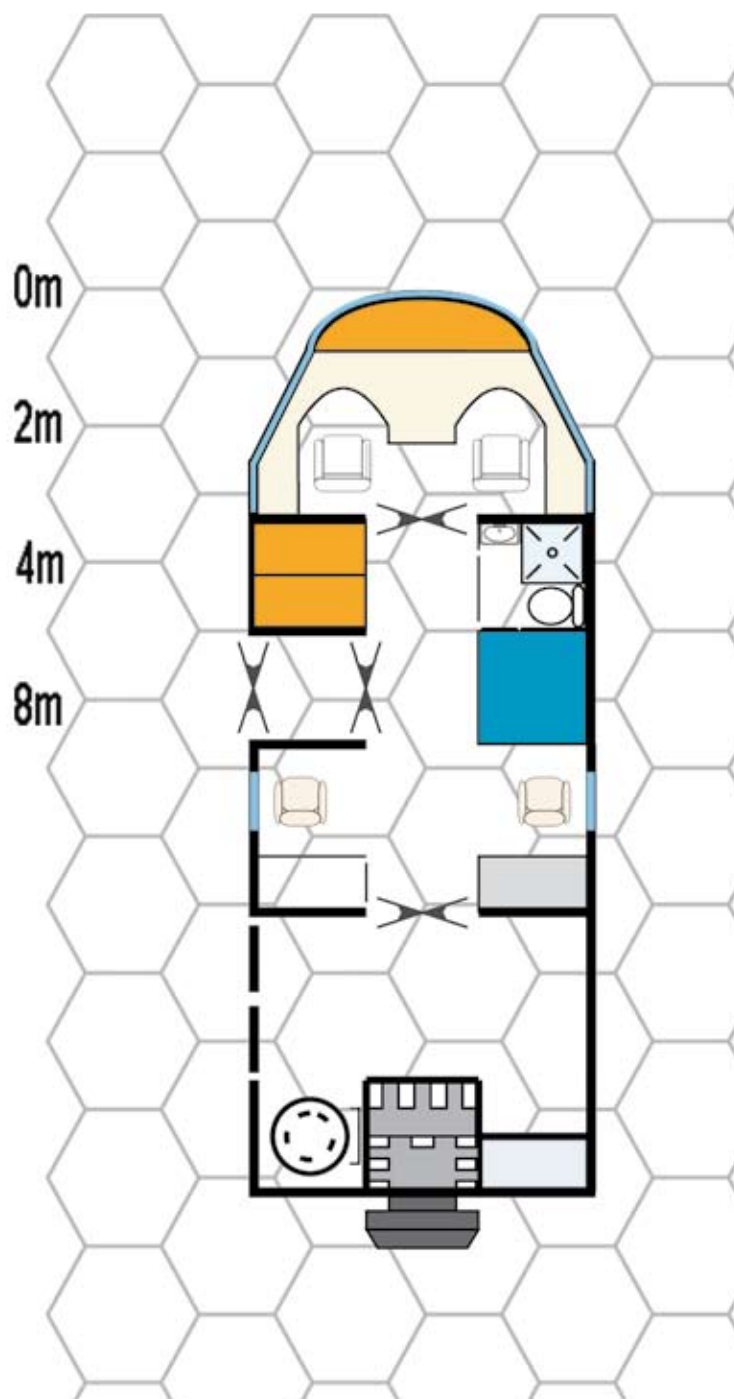
SEV-N



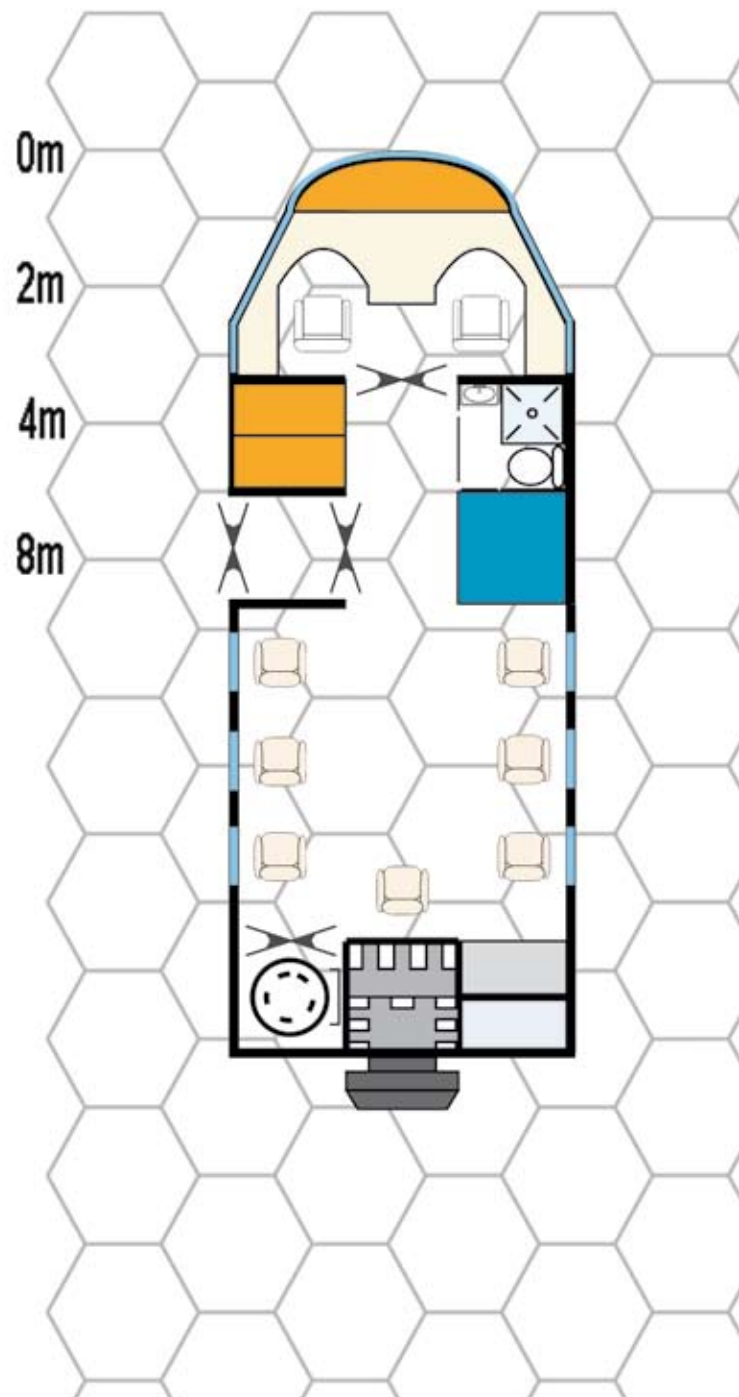
SEV-N - Cargo



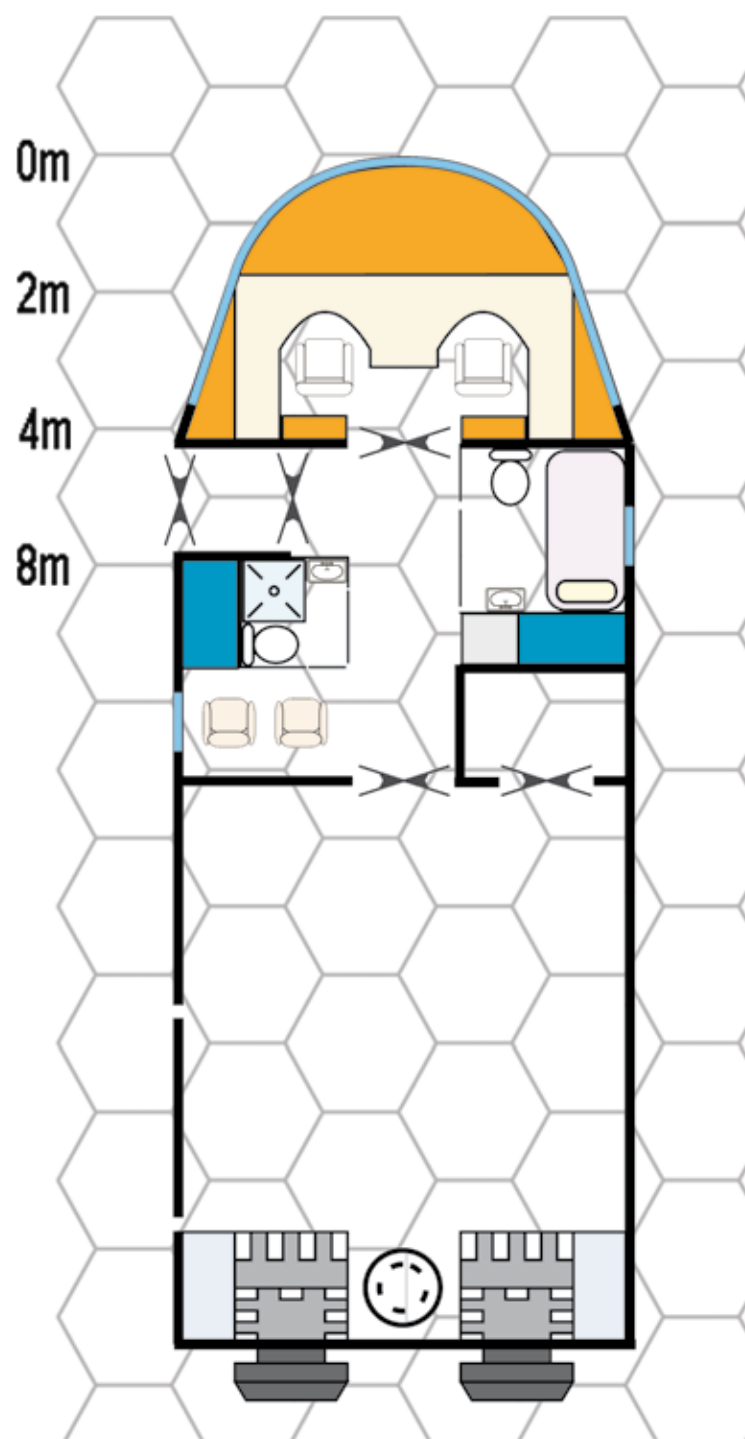
RUNABOUT - STANDARD



RUNABOUT - PASSENGER



LAUNCH - STANDARD



Unarmed Launch

TL8, MCr12.72, 20 tons. The Unarmed Launch is identical to the standard Launch except the triple turret is sacrificed for an extra ton of cargo space. Unarmed Launches are generally seen in safer areas of charted space. It requires a crew of one, who must have Ship's Boat skill of one or higher.

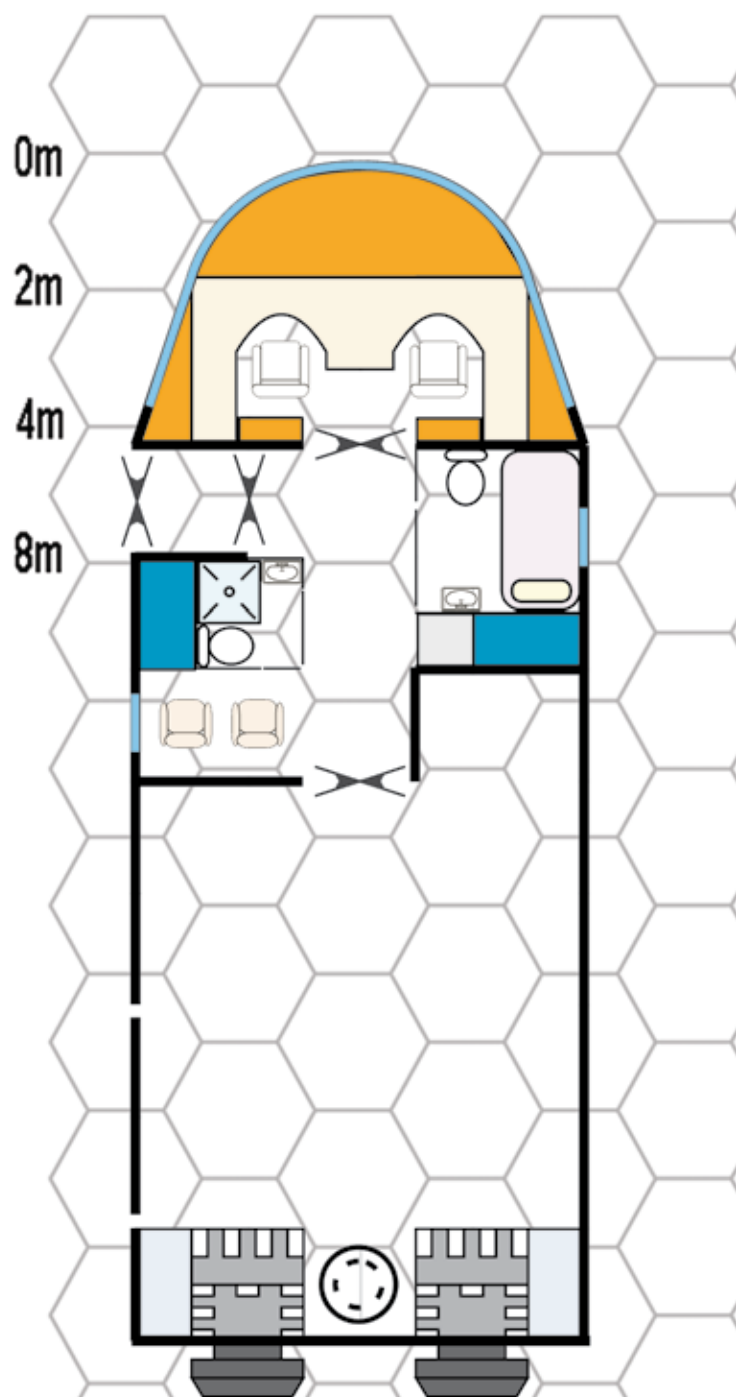
20 Ton Unarmed Launch

Unarmed Launch QL-0201121-000000-00000-0
MCr12.72 20 tons

Crew=1 TL=8

Passengers=2 Fuel=1 Cargo=8 EP=1 Agility=1
Couches=2 Small Craft Stateroom=1

LAUNCH - UNARMED



Golden Age Starships 3 Archaic Small Craft, Launches and Gigs HERO Edition

LAUNCH - ARMED

ARMED LAUNCH HERO STATISTICS

Val	Char	Cost	Notes
11	Size	55	Length 12.7", Width 6.35", Area 80.63" Mass 204.8 ton KB -11
65	STR	0	Lift 204.8tons; 13d6
10	DEX	0	OCV 3 DCV -4
23	BODY	2	
8	DEF	0	
2	SPD	0	Phases: 6, 12 Total Characteristic Cost: 43

Movement: Flight: 30" / 60"

Cost	Powers	END
	Ships Overall Construction Note: Configuration, Construction Materials, and Armor	
2	1) <i>Cylinder Hull Configuration:</i> (Total: 2 Active Cost, 2 Real Cost) +1 with Combat Piloting (Real Cost: 2) Note: Can Enter Atmosphere, Cost *1.25, Highly Manueverable	0
0	2) <i>Crystal Iron Hull:</i> (Total: 0 Active Cost, 0 Real Cost) Note: Standard Cost, TL-10, Ships Body +5%, May Add TSA	0
12	3) <i>Short range Civilain-9 Armor Package:</i> +6 DEF (18 Active Points); Ablative BODY Only (-1/2)	
	Engineering Section	
17	1) <i>Manuever Drive-1:</i> (Total: 65 Active Cost, 17 Real Cost) Flight 30", Position Shift (65 Active Points); OIF Immobile (-1 1/2), Side Effects, Side Effect occurs automatically whenever Power is used (Dangerous Exhaust; -1), Crew-Served (2 crew; -1/4) (Real Cost: 17) Note: 1G Manuever Drive	0
2	2) <i>Agility 1 Package:</i> (Total: 7 Active Cost, 2 Real Cost) +1 with DCV (5 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 1) plus Lightning Reflexes: +1 DEX to act first with All Actions (2 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 1)	0
104	<i>Ships Fusion Reactor:</i> Endurance Reserve (100 END, 100 REC) Reserve: (110 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Requires monthly refueling and maintenance; -1/4)	0
9	<i>Ships Emergency Power:</i> Endurance Reserve (25 END, 25 REC) Reserve: (27 Active Points); Custom Modifier (Backup Power Only; -1/2); REC: (25 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Backup System only; -1/2)	0

10	<i>Ships Life Support System:</i> LS (Immunity All terrestrial diseases and biowarfare agents; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (29 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1	<i>Ships Environmental Systems:</i> Change Environment 1" radius (5 Active Points); OIF Immobile (-1 1/2), Custom Modifier (only to provide lights, gravity, and temperature to ships interior; -1)	1

Tactical Systems Note: Fitted with 1 triple turret

Operations and Command Section

3	1) <i>Basic Starship Bridge:</i> (Total: 9 Active Cost, 3 Real Cost) Bureaucratics 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Systems Operation 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Security Systems 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1)	0
14	2) <i>Model 2 Starship Computer:</i> Custom Power (14 Active Points)	1
15	<i>Ships Sensors And Commo:</i> Multipower, 45-point reserve, (45 Active Points); all slots OIF Immobile (-1 1/2), Costs Endurance (-1/2) Note: Basic Sensor and Commo package required for all Starships and Spaceships	
1u	1) Radar (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (34 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	2) Infrared Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	3) Ultraviolet Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	4) High Range Radio Perception (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (27 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	5) <i>Laser/Maser Comm:</i> Mind Link , Any Willing Target (15 Active Points); OIF Immobile (-1 1/2), Only With Others Who Have Mind Link (-1), Costs Endurance (-1/2)	1
1u	6) +4 versus Range Modifier for Radio Group and Sight Group (12 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1

Other Ship Systems

0	1) <i>Accomodations:</i> Custom Power Note: 2 Small Craft Couches, 1 Small Cabin	0
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Golden Age Starships 3 Archaic Small Craft, Launches and Gigs HERO Edition

0 2) *Cargo Space*: Custom Power **Note:** 7 Tons 0
Cargo, 1 Ton Magazine

Variants

0 1) *Unarmed Launch*: Custom Power **Note:** Drops 0
triple turret, adds 2 tons of cargo space

1 2) *Passenger/Cargo Transfer Launch*: Custom 1
Power (1 Active Points) **Note:** 12 Passengers, 6
tons of cargo, unarmed

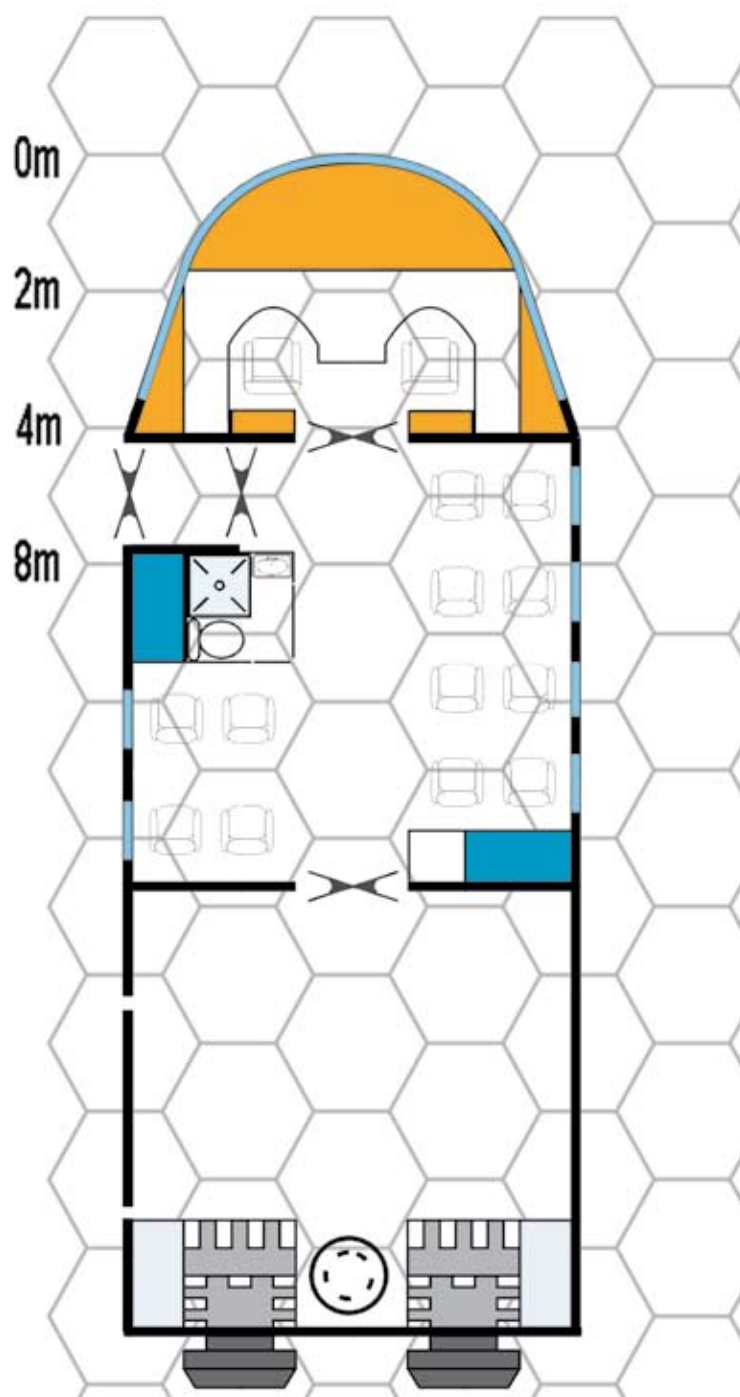
0 3) *Garbage Scow Variant*: Custom Power **Note:** 0
Unarmed, 9 Tons of Cargo

Total Powers & Skill Cost: 196

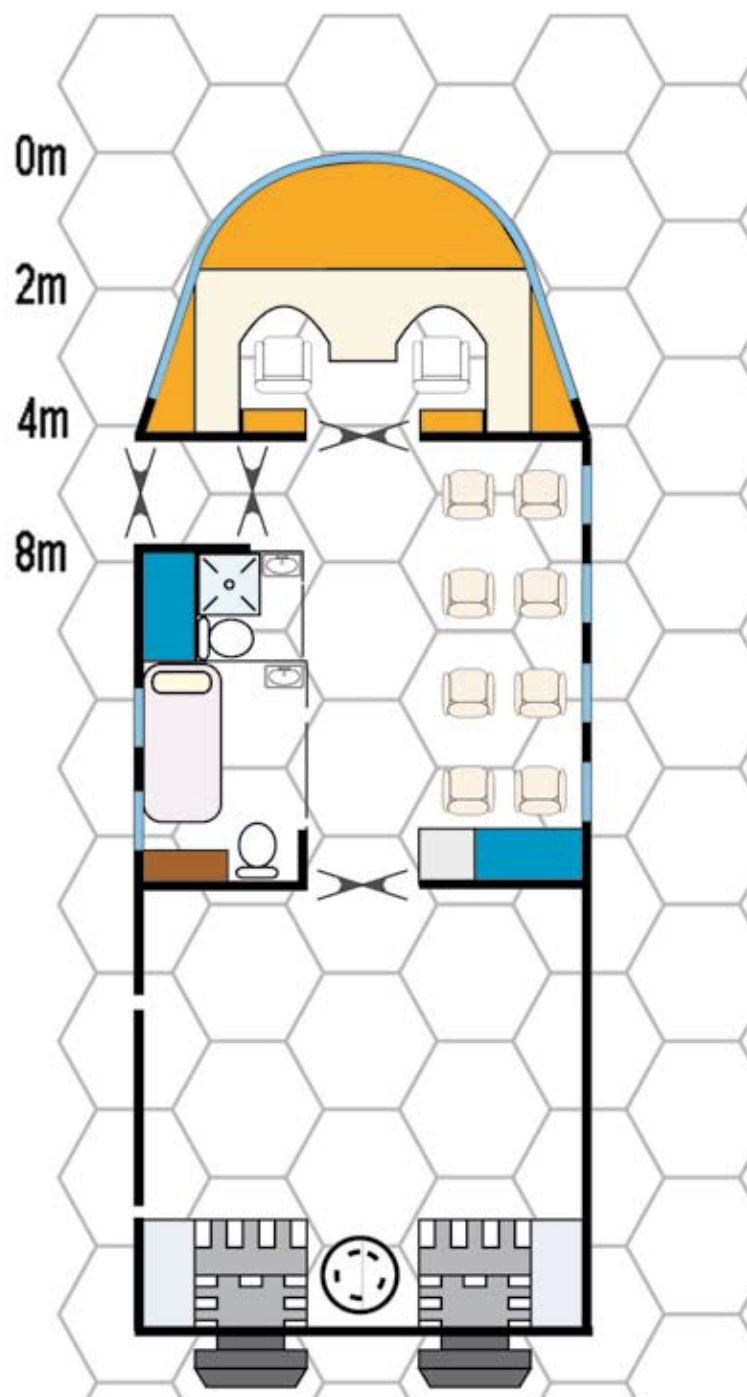
Total Cost: 239

Total Disadvantage Points: 239

LAUNCH - PASSENGER-CARGO TRANSFER



**LAUNCH - PASSENGER-CARGO TRANSFER
(SMALL CABIN VARIANT)**



LIFEBOAT

TL8, MCr13.2, 20 tons. The Lifeboat configuration of the Launch is specifically designed to function as a lifeboat, though it can also handle minor passenger and cargo transfers. Equipped with 4 emergency low berths and extra fuel, the Lifeboat configuration is primarily used by large passenger liners. In an emergency, the Lifeboat has the capacity to carry 16 passengers in the emergency low berths and 6 passengers in acceleration couches. Cargo capacity is quite limited and is usually used to store emergency supplies.

The Lifeboat is capable of 1G acceleration and has an operational duration of 12 weeks before needing to refuel. Only 4 tons of cargo can be carried. It requires a crew of one, who must have Ship's Boat skill of one or higher.

20 Ton Lifeboat

Lifeboat QL-0201121-000000-00000-0 MCr13.2
20 tons

Crew=1 TL=8

Passengers=6 Fuel=1 Cargo=4 EP=1
Agility=1 Couches=6 Emergency Low=4

LIFEBOAT HERO STATISTICS

Val	Char	Cost	Notes
11	Size	55	Length 12.7", Width 6.35", Area 80.63" Mass 204.8 ton KB -11
65	STR	0	Lift 204.8tons; 13d6
10	DEX	0	OCV 3 DCV -4
23	BODY	2	
8	DEF	0	
2	SPD	0	Phases: 6, 12 Total Characteristic Cost: 43

Movement: Flight: 30" / 60"

Cost	Powers	END
Ships Overall Construction		
2	1) <i>Cylinder Hull Configuration</i> : (Total: 2 Active Cost, 2 Real Cost) +1 with Combat Piloting (Real Cost: 2) Note : Can Enter Atmosphere, Cost *1.25, Highly Manueverable	0
0	2) <i>Crystal Iron Hull</i> : (Total: 0 Active Cost, 0 Real Cost) Note : Standard Cost, TL-10, Ships Body +5%, May Add TSA	0
12	3) <i>Short range Civilain-9 Armor Package</i> : +6 DEF (18 Active Points); Ablative BODY Only (-1/2)	
Engineering Section		
17	1) <i>Manuever Drive-1</i> : (Total: 65 Active Cost, 17 Real Cost) Flight 30", Position Shift (65 Active Points); OIF Immobile (-1 1/2), Side Effects, Side Effect occurs automatically whenever Power is used (Dangerous Exhaust; -1), Crew-Served (2 crew; -1/4) (Real Cost: 17) Note : 1G Manuever Drive	0
104	<i>Ships Fusion Reactor</i> : Endurance Reserve (100 END, 100 REC) Reserve: (110 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Requires monthly refueling and maintenance; -1/4)	0
9	<i>Ships Emergency Power</i> : Endurance Reserve (25 END, 25 REC) Reserve: (27 Active Points); Custom Modifier (Backup Power Only; -1/2); REC: (25 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Backup System only; -1/2)	0
10	<i>Ships Life Support System</i> : LS (Immunity All terrestrial diseases and biowarfare agents; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (29 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1	<i>Ships Environmental Systems</i> : Change Environment 1" radius (5 Active Points); OIF Immobile (-1 1/2), Custom Modifier (only to provide lights, gravity, and temperature to ships interior; -1)	1
Operations and Command Section		
3	1) <i>Basic Starship Bridge</i> : (Total: 9 Active Cost, 3 Real Cost) Bureaucrats 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Systems Operation 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Security Systems 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1)	0
12	2) <i>Model 1 Starship Computer</i> : Custom Power (12 Active Points)	0
15	<i>Ships Sensors And Commo</i> : Multipower, 45-point reserve, (45 Active Points); all slots OIF Immobile (-1 1/2), Costs Endurance (-1/2) Note : Basic Sensor and Commo package required for all Starships and Spaceships	

Golden Age Starships 3 Archaic Small Craft, Launches and Gigs HERO Edition

1u	1) Radar (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (34 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	2) Infrared Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	3) Ultraviolet Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	4) High Range Radio Perception (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (27 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	5) <i>Laser/Maser Comm</i> : Mind Link , Any Willing Target (15 Active Points); OIF Immobile (-1 1/2), Only With Others Who Have Mind Link (-1), Costs Endurance (-1/2)	1
1u	6) +4 versus Range Modifier for Radio Group and Sight Group (12 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1

Other Ship Systems

0	1) <i>Accommodations</i> : Custom Power Note : 6 Couches, 4 Emergency Low Berths	0
0	2) <i>Cargo Space</i> : Custom Power Note : 4 Tons	0

Small Craft

Skills

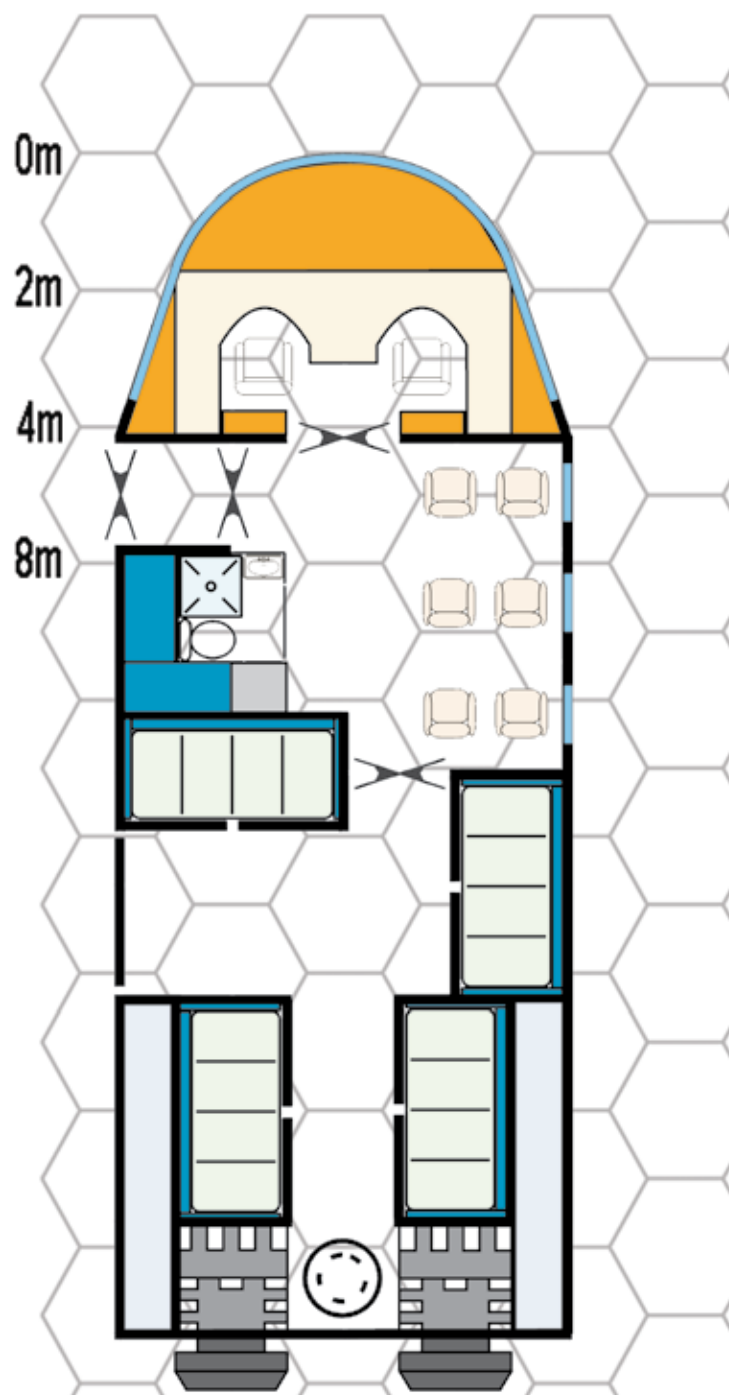
2	+1 with Mechanics
4	+2 with Survival

Total Powers & Skill Cost: 197

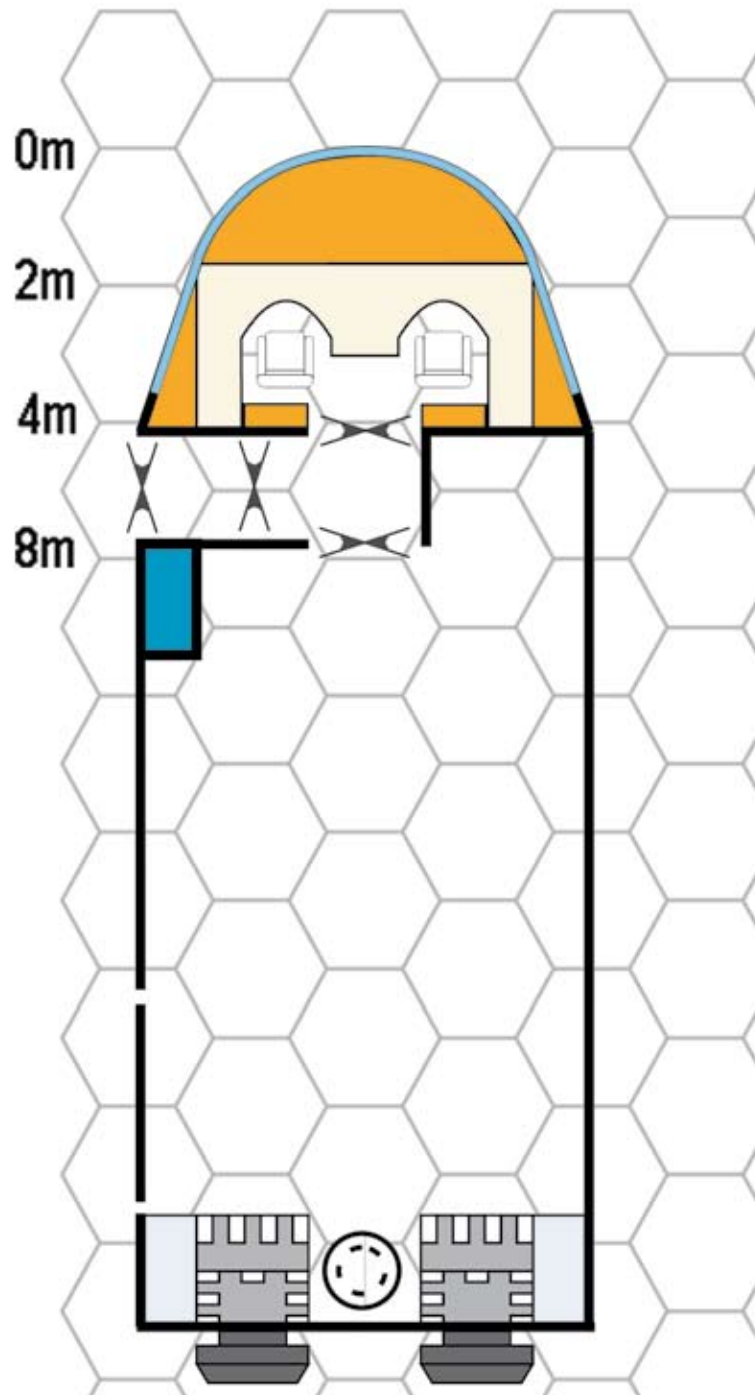
Total Cost: 240

Total Disadvantage Points: 240

LIFEBOAT



GARBAGE SCOW



GIG

TL13, MCr18.338, 20 tons. A gig is a high performance, armed and armored 20 ton small craft. Used only by navies, the highly agile gig is usually armed with a single beam laser and is capable of 6-G acceleration. Despite their performance characteristics, gigs are not fighters. They are used for fast transport of important personnel and priority cargo items and are capable of defending themselves. There are 4 acceleration couches for passengers and room for 2 tons of cargo.

It requires a crew of one, who must have Ship's Boat skill of one or higher.

20 Ton Gig

Gig GG-0106621-400000-20000-0 MCr18.338
20 tons

Crew=1 TL=13

Passengers=4 Fuel=1.2 Cargo=2 EP=1.2
Agility=1 Couches=4 Single Beam Laser
Turret. Fuel Scoops.

GIG HERO STATISTICS

Val	Char	Cost	Notes
11	Size	55	Length 12.7", Width 6.35", Area 80.63" Mass 204.8 ton KB -11
65	STR	0	Lift 204.8tons; 13d6
27	DEX	0	OCV 9 DCV 2
24	BODY	3	
21	DEF	0	
6	SPD	-10	Phases: 2, 4, 6, 8, 10, 12 Total Characteristic Cost: 34

Movement: Flight: 60" / 120"

Cost	Powers	END
	Ships Overall Construction	
4	1) <i>Wedge Hull Configuration:</i> (Total: 4 Active Cost, 4 Real Cost) +2 with Combat Piloting (Real Cost: 4) Note: Can Enter Atmosphere, Cost *1.5, Highly Maneuverable	0

- 0 2) *Superdense Hull:* (Total: 0 Active Cost, 0 Real Cost) **Note:** Standard Cost, TL-12, Ships Body +10%, May Add TSA
- 38 3) *Short range Military-12 Armor Package:* +19 DEF (57 Active Points); Ablative BODY Only (-1/2)

Engineering Section

- 95 1) *Manuever Drive-6:* (Total: 216 Active Cost, 95 Real Cost) Flight 60", Position Shift (125 Active Points); OIF Immobile (-1 1/2), Side Effects, Side Effect occurs automatically whenever Power is used (Dangerous Exhaust; -1), Crew-Served (2 crew; -1/4) (Real Cost: 33) **plus** +17 DEX (Real Cost: 51) **plus** +4 SPD (40 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4), Crew-Served (2 people; -1/4) (Real Cost: 11) **Note:** 6G Manuever Drive
- 8 2) *Agility 4 Package:* (Total: 26 Active Cost, 8 Real Cost) +4 with DCV (20 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 6) **plus** Lightning Reflexes: +4 DEX to act first with All Actions (6 Active Points); OIF Immobile (-1 1/2), Linked (Lesser Power can only be used when character uses greater Power at full value; -3/4) (Real Cost: 2)
- 104 3) *Ships Fusion Reactor:* Endurance Reserve (100 END, 100 REC) Reserve: (110 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Requires monthly refueling and maintenance; -1/4)
- 9 4) *Ships Emergency Power:* Endurance Reserve (25 END, 25 REC) Reserve: (27 Active Points); Custom Modifier (Backup Power Only; -1/2); REC: (25 Active Points); OIF Immobile (-1 1/2), Custom Modifier (Backup System only; -1/2)
- 10 5) *Ships Life Support System:* LS (Immunity All terrestrial diseases and biowarfare agents; Safe in High Pressure; Safe in High Radiation; Safe in Intense Cold; Safe in Intense Heat; Safe in Low Pressure/Vacuum; Self-Contained Breathing) (29 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)
- 1 6) *Ships Environmental Systems:* Change Environment 1" radius (5 Active Points); OIF Immobile (-1 1/2), Custom Modifier (only to provide lights, gravity, and temperature to ships interior; -1)

Tactical Systems

- 72 1) *Basic Beam Laser Battery:* RKA 8d6, MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (270 Active Points); OIF Bulky Fragile (-1 1/4), Custom Modifier (Visible Light Laser; -1/2), Increased Endurance Cost (x2 END; -1/2), Beam (-1/4), Real Weapon (-1/4) **Note:** 250 megawatt Beam Laser in turret, Battery factors 1-3

Golden Age Starships 3 Archaic Small Craft, Launches and Gigs HERO Edition

Operations and Command Section

3	1) <i>Basic Starship Bridge</i> : (Total: 9 Active Cost, 3 Real Cost) Bureaucraties 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Systems Operation 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1) plus Security Systems 9- (3 Active Points); OIF Immobile (-1 1/2) (Real Cost: 1)	0
12	2) <i>Model 1 Starship Computer</i> : Custom Power (12 Active Points)	0
15	<i>Ships Sensors And Commo</i> : Multipower, 45-point reserve, (45 Active Points); all slots OIF Immobile (-1 1/2), Costs Endurance (-1/2) Note : Basic Sensor and Commo package required for all Starships and Spaceships	
1u	1) Radar (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (34 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	2) Infrared Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	3) Ultraviolet Perception (Sight Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (11 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1
1u	4) High Range Radio Perception (Radio Group), MegaScale (1" = 1,000 km; +1), Can Be Scaled Down 1" = 1km (+1/4) (27 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	3
1u	5) <i>Laser/Maser Comm</i> : Mind Link , Any Willing Target (15 Active Points); OIF Immobile (-1 1/2), Only With Others Who Have Mind Link (-1), Costs Endurance (-1/2)	1
1u	6) +4 versus Range Modifier for Radio Group and Sight Group (12 Active Points); OIF Immobile (-1 1/2), Costs Endurance (-1/2)	1

Other Ship Systems

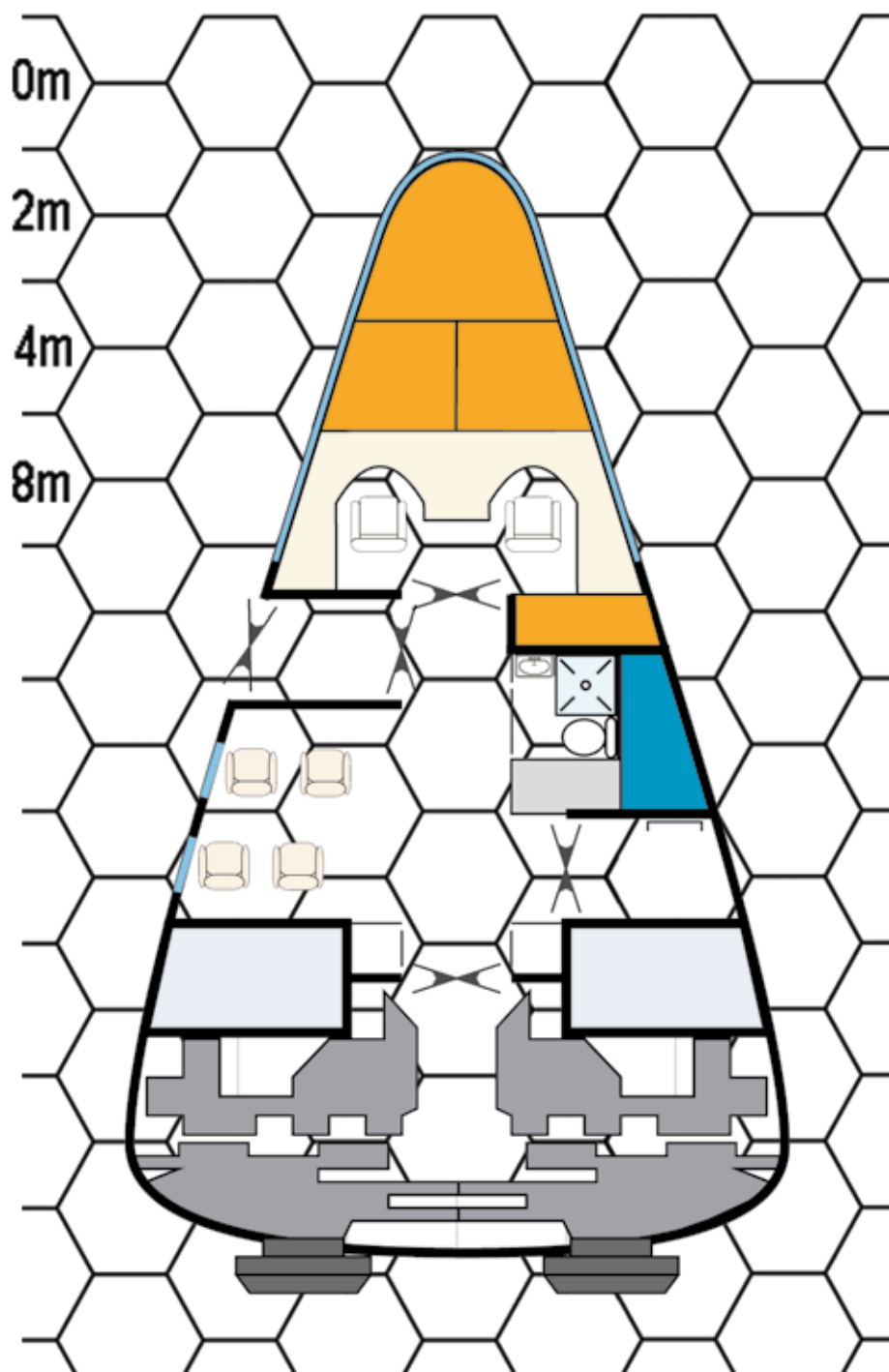
0	1) <i>Accommodations</i> : Custom Power Note : 6 Couches	0
0	2) <i>Cargo Space</i> : Custom Power Note : 1 ton of Cargo	0

Total Powers & Skill Cost: 377

Total Cost: 411

Total Disadvantage Points: 411

GIG



ADVENTURE SEEDS

Abandon Ship

A routine mid passage trip on a subsidized merchant ends in a misjump. The subbie disabled, the passengers, characters and crew have to abandon ship in the lifeboat in the middle of an uninhabited system. A barren, hostile desert planet is their only refuge. The characters must help the lifeboat crew find water on the barren world, and somehow survive until rescue comes...

Launch to the Rescue

The characters run a small craft piloting school, teaching people to pilot small craft in orbit. Operating from a quiet C class starport in a mid tech system, there are no shortage of trainees who come through the doors due to the planet's high population. The training Launch Stellar is very old but lovingly maintained. The characters are taking two 20 year old Planetary Navy recruits on a piloting excursion in the outer system when a signal GK from a 100 ton mining seeker in the system's asteroid field. The Launch responds to the Signal GK as required by interstellar law, and comes across a crippled seeker drifting in a dense asteroid field, with hull integrity breached and the crew in vac suits desperate for rescue...

Sabotage

1248 (or a Red Zone sometime in the Golden Age): An advanced nation on a TL-7 balkanized world has started launching pathfinder rockets into orbit to explore the solar system. But a highly religious anti-technology nation-state opposed to the space-faring nation's moves into space are attempting to sabotage the space program. The characters are responsible for security on the space program and are tipped off to several major plots

to destroy the launch capability of their nation. In the midst of this crisis, a starship from another world arrives to introduce the planet to human (or Vargr, or Aslan or K'kree or Hiver) offworlders, presenting a nightmare security problem for the characters.

Heroes

1248: a planet in the Wilds has rebuilt old technology and is starting to explore the local star system. The characters, having never left the planet, are part of the space program and are chosen for the first interplanetary journey to the nearest moon. Two nuclear powered SEV's and a Lander have been prepared for the mission. Historical records indicate the existence of a star-spanning human Empire which collapsed in a maelstrom of war over a century ago. No-one knows what dangers will be encountered out there, but the characters will return home heroes regardless. That is, if they return.

The possibilities of what they could encounter are endless. Here a few suggestions.

- A benign Virus entity controlling a wrecked Imperial Scout Base on the moon's surface.
- An abandoned space station drifting in orbit aroundf the moon, inhabited by an aggressive viral strain.
- A small domed Scout Base in reasonable working order and no Virus present, with 100 intact Low Berths housing Scout and Imperial Navy personnel in cold sleep.

Travellers Aid Society

Welcome TRAVELLER

Come and visit our Traveller forum the Travellers Aid Society (TAS) and see what other Traveller's are talking about. <http://www.travellerdiscussion.com>

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The Fourth Millennium 1248

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The New Era 1248 Out Of The Darkness Sourcebook 1

Out of the Darkness, is a complete 168 page guide to Charted Space in the year 1248, published by ComStar Games. A century after the Third Imperium tore itself apart in civil war and dragged the rest of Charted Space down into ruin, Humanity still teeters on the brink of extinction. But now there is hope.



The New Era 1248 Bearers of the Flame Sourcebook 2

A century after the fall of the Third Imperium, the Fourth Imperium is the bright hope for the future of Charted Space. Leading the fight against the genocidal Dominate, forging trade corridors through the Wilds or rebuilding shattered worlds, the Fourth Imperium stands at the forefront of the great reconstruction.



Starship Counters

Attractive full color Starship Counters for your science fiction game! Whether you play Traveller or any other science fiction game, you will find the 50 starships, four planets, and one space station counters handy for your gaming use.

Included in this set are:

- * A Special Forces strike craft
- * Interceptors/Fighters
- * Passenger liner
- * Freighters
- * Cruiser
- * Space Station suitable for a large orbital or deep space station
- * Planets