

For Use With Azhanti High Lightning

Supplement 5
Lightning Class Cruisers

TRAVELLER

*Science-Fiction Adventure in
the Far Future*

Game Designers' Workshop

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This supplement is intended to provide background and statistical information concerning the **Azhanti High Lightning** class of cruisers.

Lightning Class Cruisers,
TRAVELLER, Supplement 5

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This booklet is a supplement for Traveller,
GDW's science-fiction role-playing game system set in the far future.
It is intended for use with Azhanti High Lightning and Traveller.

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Introduction

This supplement is a detailed treatment of the background, specifications, capabilities, and interior layout of the *Azhanti High Lightning* class (also known as *Azhanti* or *Lightning* class) interstellar cruisers in all their various models. These starships are 60,000 ton vessels designed and constructed with the rules contained in **Traveller** Book 5, *High Guard*, and intended for use in accordance with the concepts put forth in the **Traveller** science-fiction role-playing system.

There are two distinct uses for this supplement:

1. The information in this booklet provides background data to players when playing out the scenarios of *Azhanti High Lightning* contained in the game rules booklet. Portions of the scenarios call for background or other data in this supplement. In addition, the deck plan explanations in this booklet are an aid to the players in determining the uses and locations of parts of the ships.

2. The information in this booklet, used with or without the deck plans, can be incorporated into **Traveller** role-playing campaigns, either as single adventures or by placing a *Lightning* class ship into the hands of the characters.

This supplement should be considered an information resource with which the action and adventure of playing *Azhanti High Lightning* can be enhanced and widened. It provides background and detail than makes the entire game more interesting and realistic.

STANDARDS AND ASSUMPTIONS

The following basic standards and assumptions affect the use of the information within this supplement.

Dates: Dates are given in the Imperial system, and consist of a three-digit day, followed by a dash and a year number. For example, 001-1000 is New Year's Day in the year 1000. Years uniformly have 365 days, and years are counted from the year Zero, a holiday year in which the Imperium was founded.

Azhanti High Lightning takes place in the period 997 to 1107.

Places: Place names generally refer to stellar systems; the name also applies to the major world in the system. Where necessary, the name is followed by a slash and another name, that of system's subsector. For example, Pandrin/Uthe is the world Pandrin, in the Uthe subsector.

Those locations within the Spinward Marches are mapped separately in **Traveller** Supplement 3, *The Spinward Marches*. Those outside the Marches have not been specifically mapped.

References: The background for this game is solidly based on **Traveller**. The following references may prove useful in using this game with **Traveller**.

1. **Basic Traveller.** The boxed set, containing Books 1, 2, and 3.

2. **High Guard.** Book 5, dealing with interstellar navies.

3. **The Spinward Marches.** Supplement 3, containing star maps of sixteen subsectors on the fringe of the Imperium.

4. **The Journal of the Travellers' Aid Society.** A quarterly magazine devoted to all aspects of **Traveller** and science-fiction gaming.

Background

The following section contains data and statistics on the *Azhanti High Lightning* class fleet intruder, and on its subsequent models and conversions. The information here should be considered library data, available to **Traveller** characters who devote sufficient effort to uncovering it.

BACKGROUND INFORMATION

Conceived originally as a fleet intruder (or flint boat, in naval parlance), the *Azhanti High Lightning* class vessels were among the few ships of their day below capital class to incorporate a meson screen. This meson screen, coupled with a high amperage tritium accelerator and a wide array of deadfall bombardment ordnance, resulted in extensive employment of the class in both the planetary bombardment and fleet vanguard roles. While the ships had short legs (only 2G maneuver drives), their jump-5 capacity made them highly responsive to situations and crises over many parsec spans. They proved especially useful in the closing days of the war against the Solomani.

Being unstreamlined, these large ships were restricted to beyond the reaches of atmosphere, and carried shuttles and small craft for the transfer of personnel and equipment between the tops and bottoms of gravity wells. Rapid transfers of troops were considered essential, resulting in the adaptation of the ship's fuel shuttles for vehicle and troop movement when they were not committed to refuelling itself. The ships, constructed using an outer frame system, were unable to withstand the uneven stresses of gravity at a surface were they ever to land, even on an airless world. As a result, all troop or invasion situations depended on the shuttles as an integral part of the plan.

First laid down in 991, the *Azhantis* enjoyed a long and distinguished career, being finally declared obsolescent in 1048 and either paid off or converted to non-combat roles.

A total of 69 vessels, out of a production order of 100, were completed by the conclusion of the Solomani Rim War (990 to 1002), and an additional 23 were finished up in the immediate postwar period. Eight hull numbers were cancelled. Twenty-one ships were lost in action during the war, while an additional five vessels in drydock awaiting extensive repairs at the time of the armistice were paid off and scrapped. Some major components from those ships which were scrapped found their way into ships of class being completed post-war, sparking a minor military procurement scandal at Gashidda. One of the *Azhantis* scrapped was converted to a bulk cargo carrier by the Delvani Lines (minus weaponry, of course) for use on the Gateway run to the mine colonies at Rageon.

In the forty-six years after the war (1003 to 1048), three more Azhanti class ships were lost in the course of routine duty. Four ships were turned over to allied powers, generally with reduced weaponry, and five examples were transferred to the Imperial Interstellar Scout Service for use as exploratory cruisers or fast messengers. In 1048, all 55 surviving examples still in Imperial Naval service were retired from active duty, with 20 vessels placed in ordinary, 16 converted to non-combat

roles (primarily tanker duty and training), six sold to commercial concerns (one with weaponry intact), and the remaining 12 scrapped.

A fleet specification issued in 1077 calling for a ship platform for the newly developed Penbody MA-21 meson gun resulted in a proposal from the design firm of Bowen and Masters for the conversion of the surviving *Azhanti* class hulls to meet the specification. A total of 28 hulls were ultimately converted and redesignated as frontier cruisers. Carrying the most advanced ship-board main armament and defense systems then available, the *Azhanti High Lightning* and the sister ships of this new class became the most cost-effective addition to the Imperial arsenal in decades.

Each of the refurbished *Azhantis* was fitted with a black globe generator in addition to the former meson screen, and included a direct substitution of the Penbody MA-21 for the tritium accelerator. A shortage of black globe generators left two of the ships with only meson screens until 1104. Each *Azhanti* was assigned six fighter squadrons of the new RF-128 Rampart close-support fighter, although initially some ships made do with less than a full complement (using secondary standard craft for their additional squadrons); all ships carried a small number of armed launches for boarding parties, customs inspections, and other routine missions. Twelve vessels still in service as fleet auxiliaries and sixteen of the twenty vessels in ordinary were deemed suitable for the modernization, which proceeded immediately (1078 to 1090). At least two ships were returned to duty in their original configuration during the Fourth Frontier War; in each case, the ship became part of local system defense forces protecting the shipyard which would ultimately provide the modernization, and one actually engaged Zhodani vanguards before they were driven off.

The 28 ships converted were redesignated as frontier cruisers in recognition of their anticipated role as the local core of the first line of defense on the frontiers of the Imperium. Initially, all 28 ships were paired to form 14 cruiser divisions (CruDivs 117 to 128, inclusive), but CruDivs 118, 119, and 127 were soon broken up to provide individual ships for moderate threat regions.

Azhanti class CruDivs were assigned to three major areas of potential trouble: the Solomani Rim, the Spinward March border with the Zhodani, and the Gateway to the turbulent client-states on the trailing frontier. They served admirably in all roles from brevet ship of the line, through commerce raider, to search and rescue cruiser in all territories. Of special importance was the fact that the first ships to be converted were immediately assigned to the Spinward Marches, where they served in the opening days of the Fourth Frontier War (1082 to 1084). Other notable campaigns in which the new *Azhantis* served included the continuing hostilities in the Solomani Sphere, and the Gateway collapses. Losses for the class accumulated over years, and gradually the *Azhanti* CruDivs were disbanded or consolidated as their ships succumbed. Eleven ships have been lost since modernization was begun in 1070, and two ships have been paid off, leaving nine active Crudivs (five at half strength) and two independent vessels.

Scout Service: The five ships transferred to the Scout Service were all of the pre-modernization model. Three were refitted for long-range exploration and dispatched to the worlds spinward of the Imperium and rimward of the Zhodani; there to explore, map, and win allies against Zhodane.

The remaining two ships were also refurbished to cargo and data carriers and put

on a continuing shuttle run from Terra to the Imperial Core.

Auxiliary Operations: When the *Azhanti* class was retired in 1048, sixteen of the ships were placed on auxiliary duty. Ten ships assumed tanker duty, serving as fuel storage depots carrying excesses of fuel in their tanks for routine fleet refuelling operations. The remaining six ships operated as cargo carriers, and at the same time performed training runs for various specialist schools of the Imperial Navy.

Commercial Service: Of the eight ships purchased at surplus and placed in commercial service, the most interesting is the *Emissary* (ex-*Sparkling Distress*) operated by Oberlindes Lines in the Vargr Extents. Taking advantage of a bureaucratic loophole, the ship never shed its weaponry, and was operated from a base just beyond the Imperial border, at Pandrin/Uthe. The weaponry projects the proper attitude of power to the Vargr, and while never actually used, it has made the Oberlindes commercial expeditions highly successful.

Other ships in commercial service have tended to serve in either fast, high value cargo transport roles, or as bulk carriers where their jump-5 drives prove practical.

SHIP DESCRIPTION

The *Azhanti High Lightning* class ship is built on a 60,000 ton hull assembled in orbit; its maneuver drives can achieve 2G, while its massive jump drives are capable of jump-5. Ten decks of quarters contain over 600 staterooms allowing a potential 620 crew members, including 150 ship's troops, and 149 flight crew and maintenance personnel for the ship's six fighter squadrons. A capability for 310 additional crew in low passage (the frozen watch) is distributed among the various crew quarters decks. Fuel tankage is 32,000 tons, distributed onto interior decks (they serve as battle damage cushions) and the rear farings. The ship is not streamlined, but is capable of limited refuel skimming.

As a military ship, the major purpose of the ship is as a weapons carrier. The ship is built around three tubes: a spinal mount weapons tube, and a twin small craft launch tubes. Distributed along the dorsal and ventral surfaces are twenty-four ten-ton bays. Finally, the entire surface of the ship is covered with a variety of laser turrets, sandcasters, and repulsors. In addition, the ship carries internal nuclear dampers and a meson screen (plus a black globe in the refurbished models).

Fleet Intruders: In the original fleet intruder, the spinal mount weaponry is a particle accelerator and the ten-ton bays carry missile racks.

Auxiliaries: When converted to auxiliaries, all major weaponry was suppressed (removed and plated over) to comply with Imperial doctrine.

Frontier Cruisers: When converted to frontier cruisers, the spinal mount became a meson gun, and the ten-ton bays were fitted with particle accelerators. Some of the exterior turrets were converted from laser to missile rack.

Scout Ships: The ships received by the scout service retained their particle accelerator spinal mount, but replaced the missile racks in the bays with meson guns of low displacement and heavy duty repulsors.

Originally, all ships had two decks capable of holding 200 tons of cargo each. The scout service ships increased this to four cargo holds by converting the auxiliary bridge and one deck of quarters.

Scout service ships made do with a smaller crew than the naval cruisers, sacrificing many gunners, while adding some alien contact specialists and lab technicians.

GENERAL SPECIFICATIONS

The ships of the *Azhanti High Lightning* class, aside from weaponry changes, remained essentially the same throughout their service lives.

Tonnage:	60,000 tons (standard). 840,000 cubic meters.
Acceleration:	2G constant.
Dimensions:	405m long by 61.2m wide by 36.4m high (fin adds 17m).
Crew:	62 officers, 333 men. 75 pilots. 150 troops.
Jump:	5
Powerplant:	5
Engineering:	Twin Quadric Halonic fusion power plants driving a backed up LSP (or equivalent) Fardrive jump unit. Connected in parallel are standard issue maneuver drives constructed at the local yard.
Gravitics:	Standard inertial compensators, plus 1G floor field.
Range:	Unlimited maneuver. One jump-5 (or equivalent lesser jumps). At least 300 days.
Electronics:	Triple ISMM Model/6.1 on-board computers with multiple input stations distributed throughout the ship. Integral fire control and program storage. Fibre optic back-up network for control of battle damage.
Small Craft:	Four 400-ton fuel shuttles. Ventral docking for ships in the 100 to 400 ton class, including carriage during jump. Sixty fighters (a squadron of ten consists of eight single place and two dual place fighters); five 40-ton launches or gunboats. Two hangar decks with provisions for sixty-six small craft (maximum diameter: 3m; maximum length: 12m).
Armament (FI):	PA-1688 spinal partical accelerator mounted co-axially with fighter launch tubes. Twenty-four fifty ton bays fitted with missile racks.
Armament (CF):	Penbody MA-21 meson gun spinally mounted. Twenty-four bays mounting particle accelerators.
Armament (ISC):	PA-1688 spinal partical accelerator (as built), plus twenty-four bays mounting meson guns and repulsors.
Defenses:	All ships have a wide array of laser, missile, energy, and caster turrets for small craft and close-action protection. NOTB 666 meson screen and heavy pierced plate hull armor throughout. Absalom nuclear dampers (Finalians later). CFs carry Vlandian BGs.

STATISTICS

The tables on the following pages show construction information on the ships of the *Azhanti High Lightning* class. Tail numbers are preceded by the prefix FI (for fleet intruder) for the original version. Ships converted to frontier cruiser take the prefix CF. Ships which serve as auxiliaries take the prefix QC (for auxiliary cruisers). Scout ships take the prefix ISC (for Imperial scout cruiser). Commercial ships generally drop any prefix but retain the tail number as a registry number.

No.	Name	Laid Down	First Flight	Builder	Notes
6326	Azhanti High Lightning	015- 991	091- 994	Gashidda No. 1	IP
6327	Sylean High Lightning	037- 991	343- 993	Gashidda No. 2	C
6328	Vilani High Lightning	057- 991	356- 993	Gashidda No. 3	A
6329	Bard Enterprise	073- 991	034- 994	Vlandian No. 1	IMP
6330	Solo Quench-Fire	106- 991	085- 994	Vlandian No. 2	A
6331	Venomous Observer	107- 991	030- 994	Clan Severn	L
6332	Vengeance	118- 991	070- 994	Ling Standard	D
6333	Bard Endeavour	132- 991	041- 994	Yard 17	A
6334	Empiric Provost	123- 991	279- 993	Yard 16 No. 1	J
6335	Muffled Triumph	155- 991	324- 993	Arshani, Etran	J
6336	Gilded Farthing	159- 991	185- 994	Commonal	F
6337	Riant Tolerance	179- 991	148- 994	Yard 16 No. 3	A
6338	Luminous Shield	181- 991	311- 993	AHG, AG	C
6339	Ischiatic Portent	222- 991	281- 993	Yard 22 No. 1	A
6340	Locus Farthing	212- 991	193- 994	Yard 11 No. 1	A
6341	Solitaire Foray	250- 991	311- 993	Yard 22 No. 2	A
6342	Haunting Thunder	264- 991	326- 993	Yard 16 No. 4	IP
6343	Gilded Enterprise	268- 991	158- 994	Tukeral, et al	A
6344	Grinding Starbow	293- 991	128- 994	Delvani	CE
6345	Irreproachable Rage	295- 991	182- 994	Highlans	A
6346	Arrival Phosphor	298- 993	360- 995	Yard 16 No. 1	A
6347	Refulgent Thunderer	304- 993	280- 995	Yard 22 No. 1	D
6348	Loathesome Reverie	320- 993	003- 996	AHG, AG	IP
6349	Manacle Infrequent	327- 993	197- 996	Arshani, Etran	A
6350	Fiorin High Lightning	356- 993	310- 995	Gashidda No. 2	A
6351	Geonee High Lightning	362- 993	319- 995	Gashidda No. 3	A
6352	Reverie Indigo	053- 994	123- 997	Clan Severn	A
6353	Reverie Magenta	048- 994	026- 997	Vlandian No. 1	L
6354	Refulgent Triumph	061- 994	060- 997	Yard 17	L
6355	Children of the March	095- 994	117- 997	Ling Standard	IP
6356	Incorruptible Quintessence	111- 994	279- 996	Vlandian No. 3	L
6357	Acheron High Lightning	125- 994	352- 996	Gashidda No. 1	C
6358	Guardian Swift Rage	143- 994	037- 997	Delvani	J
6359	Rugged Swift Vengeance	149- 994	002- 997	Yard 16 No. 3	L
6360	Righteous Senior	188- 994	059- 997	Tukera, et al	A
6361	Sparkling Foray	205- 994	192- 997	Highlans	C
6362	Sparkling Observer	193- 994	302- 996	Commonal	F
6363	Fiorin Triumph	208- 994	132- 997	Yard 11 No. 1	A
6364	Locus Sabot	296- 995	139- 998	Yard 22 No. 1	L
6365	Suerrat High Lightning	311- 995	283- 997	Gashidda No. 2	A
6366	Ilurian High Lightning	348- 995	205- 998	Gashidda No. 3	A
6367	Suerrat Gainful	350- 995	313- 997	Yard 16 No. 1	A
6368	Haunting Warlord	021- 996	121- 999	AHG, AG	A
6369	Bard Triumph	207- 996	275- 998	Arshani, Etran	L
6370	Genet Banter	293- 996	060- 999	Vlandian No. 3	A
6371	Empiric Vengeance	325- 996	153- 999	Commonal	L
6372	Luriani High Lightning	353- 996	166- 999	Gashidda No. 1	IP

No.	Name	Laid Down	First Flight	Builder	Notes
6373	Arbitrary Remora	007- 997	133-1000	Yard 16 No. 3	G
6374	Tolerance Sparkling	027- 997	195-1000	Vlandian No. 1	L
6375	Solo Finery	044- 997	108-1000	Delvani	J
6376	Righteous Rage	085- 997	054-1000	Tukera, et al	L
6377	Threatening Vengeance	076- 997	327- 999	Yard 17	IP
6378	Imperial Sabreur	139- 997	116-1000	Ling Standard	IP
6379	Sparkling Distress	138- 997	121-1000	Clan Severn	K
6380	Regal Carnation	144- 997	073-1000	Yard 11 No. 1	IP
6381	Ice Rainbow	205- 997	338- 999	Highlans	IN
6382	Riant Shield	286- 997	057-1000	Gashidda No. 2	IP
6383	One Thousand Years	331- 997	001-1000	Yard 16 No. 1	IP
6384	Ischiatic Sabreur	155- 998	150-1001	Yard 22 No. 1	IN
6385	Vermillion Stance	223- 998	171-1001	Gashidda No. 3	F
6386	Haughty Thunder	284- 998	044-1001	Arshani, Etran	L
6387	Argentine Foray	064- 999	043-1002	Vlandian No. 3	IP
6388	Infrequent Refuge	141- 999	305-1001	AHG, AG	F
6389	Isosceles Quire	161- 999	123-1002	Commonal	IN
6390	Echo Intruder	186- 999	078-1002	Gashidda No. 1	IP
6391	Valiant Senior	328- 999	281-1001	Yard 17	IP
6392	Annulling Tapestry	341- 999	289-1001	Highlans	IP
6393	Incomparable Triumph	016-1000	001-1003	Yard 16 No. 1	G
6394	Forward Starbow	061-1000	187-1003	Tukera, et al	J
6395	Arbitrary Complication	069-1000	343-1002	Gashidda No. 2	B
6396	Guardian Rainbow	077-1000	073-1003	Yard 11 No. 1	IMP
6397	Magenta Portent	115-1000	095-1003	Delvani	J
6398	Avenging Gainful	138-1000	028-1003	Ling Standard	IN
6399	Muffled Phosphor	145-1000	120-1003	Clan Severn	HO
6400	Infrequent Hazard	150-1000	302-1002	Yard 16 No. 3	HP
6401	Mortal Quench-Fire	201-1000	113-1003	Vlandian No. 1	HP
6402	Arbitrary Divider	047-1001	342-1003	Arshani, Etran	B
6403	Dolorous Hauberk	178-1001	088-1004	Yard 22 No. 1	HO
6404	Arrival Scourge	177-1001	076-1004	Gashidda No. 3	HP
6405	Bard Refuge	295-1001	112-1004	Yard 17	HP
6406	Imperial Reaumur	302-1001	199-1004	Highlans	F
6407	Bard Warlord	321-1001	095-1004	AHG, AG	HP
6408	Bard Endeavour Echo	057-1002	088-1005	Vlandian No. 3	HP
6409	Sylean Observer	087-1002	101-1005	Gashidda No. 1	HO
6410	Genet Rampart	153-1002	029-1005	Commonal	HO
6411	Exhausted Venture	329-1002	288-1004	Yard 16 No. 3	HP
6412	Cause Rampant	360-1002	106-1005	Gashidda No. 2	HP
6413	Refractor Loathesome	012-1003	288-1005	Yard 16 No. 1	HP
6414	Minatory Periant	031-1003	327-1005	Ling Standard	HP
6415	Arrival Vengeance	096-1003	037-1006	Yard 11 No. 1	HP
6416	Locus Farthing Echo	122-1003	288-1005	Delvani	B
6417	Cancelled 347-1002				
6418	Reverie Indigo Echo	140-1003	311-1005	Clan Severn	HP

Note: 6419 to 6425 cancelled 100-1002.

SHIPS CONVERTED TO COMMERCIAL SERVICE

No.	Name	Company	Acquired	Notes
6334	Marie Luise, ex-Empiric Starbow	Tukera	123-1008	J
6335	Gateway Indani, ex-Muffled Triumph	Gateway	258-1010	J
6344	Starbow, ex-Grinding Starbow	Delvani	017-1002	CE
6375	Phylean, ex-Solo Finery	Delvani	100-1037	J
6379	Emissary, ex-Sparkling Distress	Oberlindes	321-1023	K
6394	Rimward Pride, ex-Sparkling Starbow	Tukera	222-1021	J
6397	Nibber, ex-Magenta Portent	Tukera	182-1035	J

SHIPS TRANSFERRED TO IMPERIAL INTERSTELLAR SCOUT SERVICE

No.	Name	Duty	Acquired	Notes
6336	Luray Explorer, ex-Gilded Farthing	Explorer	010-1040	F
6362	Bright Light, ex-Sparkling Observer	Explorer	010-1040	F
6385	Vermillion Stance	Explorer	010-1040	F
6388	Infrequent Refuge	Dispatch	010-1040	F
6406	Imperial Reaumur	Dispatch	010-1040	F

SHIPS CONVERTED TO FRONTIER CRUISER

No.	Name	Conversion Begun	Returned to Duty	Notes
6326	Azhanti High Lightning	032-1078	111-1081	PV
6329	Bard Enterprise	093-1083	127-1085	MPU
6342	Haunting Thunder	326-1079	228-1081	PQ
6348	Loathesome Reverie	132-1081	212-1082	PR
6355	Children of the March	327-1082	199-1083	PV
6372	Luriani High Lightning	338-1081	083-1083	PR
6377	Threatening Vengeance	208-1078	197-1080	PQ
6378	Imperial Sabreur	034-1079	168-1080	PS
6380	Regal Carnation	364-1080	027-1082	PT
6382	Riant Shield	182-1087	132-1088	PU
6383	One Thousand Years	003-1082	342-1082	PW
6387	Argentine Foray	198-1080	127-1082	PS
6390	Echo Intruder	034-1083	183-1084	PR
6391	Valiant Senior	284-1083	139-1084	PT
6392	Annulling Tapestry	045-1082	046-1083	PT
6396	Guardian Rainbow	027-1083	120-1084	MPR
6400	Infrequent Hazard	231-1086	100-1088	PR
6401	Mortal Quench-Fire	090-1088	120-1090	PU
6404	Arrival Scourge	043-1085	145-1089	PR
6405	Bard Refuge	338-1088	123-1089	PV
6407	Bard Warlord	184-1082	243-1083	PQ
6408	Bard Endeavour Echo	134-1084	126-1086	PT
6411	Exhausted Venture	010-1082	030-1083	PR
6412	Cause Rampant	321-1084	005-1086	PR
6413	Refractor Loathesome	286-1080	134-1082	PV
6414	Minatory Periant	134-1081	156-1082	PU
6415	Arrival Vengeance	003-1092	360-1082	PV
6418	Reverie Indigo Echo	227-1082	132-1083	PW

NOTES

The following notes apply to the ships of the *Azhanti High Lightning* class.

A. Twenty-one ships were lost to enemy action during the Solomani Rim War (990 to 1002).

B. Three ships were lost during the post-Rim War period (1003 to 1048).

C. Five ships were scrapped due to battle damage sustained during the Solomani Rim War. Some elements of these ships reportedly found their way into *Azhanti* class ships completed at Gashidda after 1002.

D. Two ships were transferred to the Darrian Confederation Navy in the Spinward Marches in 1012. Renamed *Mire* (ex-*Vengeance*) and *Darrian* (ex-*Refulgent Thunderer*).

E. One hull scrapped following the Solomani Rim War was acquired by Delvani Lines and converted to a bulk cargo carrier in 1002. This vessel was the first example of commercial use of *Lightning* class cruisers.

F. Five ships were transferred to the Imperial Interstellar Scout Service in 1040 for use as exploration cruisers and dispatch vessels.

G. Two ships were transferred to the Vegan Autonomous District in 1013. Renamed *Sudden Star* (ex-*Arbitrary Remora*) and *Accompanist* (ex-*Incomparable Triumph*).

H. Sixteen ships were transferred to fleet auxilliary in 1048. Primary duties included fuel tankers and bulk cargo carriers.

I. Twenty ships were placed in ordinary, 1048. Hulls were retained in orbital storage pending disposition or futher need.

J. Five ships were declared surplus and sold to commercial concerns in the period 1008 to 1035. All weaponry was removed by the recipient in compliance with demilitarization regulations and ordinances.

K. One ship was declared surplus and sold to Oberlindes Lines in 1023. On-board weaponry was retained due to an apparent oversight on the part of the disposing agency.

L. Twelve ships were inspected by the naval authorities and scrapped as no longer usable, 1048.

M. Two ships, awaiting conversion from fleet intruder to frontier cruiser, returned to duty in their original configuration during the Fourth Frontier War (1082 to 1084) and stood system security duty for their local yards. This patrol duty resulted in enemy contact for one vessel.

N. Four ships in ordinary scrapped in 1078 after failing examination for possible modernization.

O. Four ships serving as fleet auxiliaries retired from service and scrapped in 1070.

P. Twenty-eight ships in service as fleet auxiliaries or in ordinary modernized and refurbished as frontier cruisers, 1078 to 1090.

Q. Three ships lost in the course of the Fourth Frontier War (1082 to 1084).

R. Eight ships lost in operations postwar (1085 to 1105).

S. Two ships retired or paid off (1085 to 1105).

T. Four ships remain in service in the Gateway, 1107.

U. Four ships remain in service in the Solomani Sphere, 1107.

V. Five ships remain in service in the Spinward Marches, 1107.

W. Two ships remain in service at the Imperial Core, 1107.

DISPOSITIONS

The ships of the *Azhanti High Lightning* class have all led distinguished careers in the service of the Imperium. The following are notable examples of their contributions.

Azhanti High Lightning (FI-6326, later CF-6326) is the ship of class and lends its name to the entire class of vessels. Its most notable engagement occurred during the Fourth Frontier War (1082 to 1084), after its conversion to frontier cruiser. One of the first ships to be converted, it was immediately placed on neutrality watch on the border between the Imperium and the Zhodani Consulate. With the outbreak of war in early 1082, the *Azhanti* immediately led its small escort of *Fiery* and *Gazelle* class ships directly toward the Zhodani thrust through Vilis subsector, and succeeded in beating back the enemy with minimal losses to the Imperial Task Force.

Bard Endeavour (FI-6333) was lost in the last years of the Solomani Rim War (990 to 1002) after an Imperial force attempting a deep raid against Solomani colonies was caught and forced to retreat. *Bard Endeavour* was disabled and abandoned by the retreating forces; an abortive attempt by the Solomani to salvage the ship for their cause failed.

Luray Explorer, ex-*Gilded Farthing* (FI-6336, later ISC-6336) was converted to a long-range exploration cruiser and dispatched to the far spinward reaches beyond the Imperial border in a program to explore territories not yet under the control of large interstellar powers, especially the Zhodani.

These areas are of importance because they are not part of the traditional zone once occupied by the Ancients and settled by the Six Races.

Luray Explorer, equipped for long term operations, included a complete planetary survey team, defensive fighters, long range scanners, and a squadron of exploratory pinnaces. Its mission was to contact local races, or explore unsettled and promising worlds. Imperial navigation beacons and emergency shelters were also placed for the assistance of distressed space-farers.

The long isolation of the journey placed great stress on the crew of the ship, and one crew member apparently suffered from a latent claustrophobia, finally sneaking a ride to the surface of one of the worlds being visited. The uninhabited world appeared to be hospitable, and he opened his faceplate and relaxed for a few hours before sneaking back aboard the shuttle and returning to the ship. Several hours later, he died of an acute flesh-rot, but not before infecting several other members of the ship.

The infection spread rapidly throughout the ship, and only through herculean efforts was a small portion of the crew able to quarantine some important areas and return the ship to Imperial space for decontamination.

Loathesome Reverie (FI-6348, later CF-6348) was committed to routine naval patrol in the Spinward Marches after the Fourth Frontier War (1082 to 1084). In 1090, the ship was transferred to the Imperial Core, and ordered to make a call at Lewis/Aramis en route and investigate a report of piracy. Several shipping lines had complained that the system was encumbering trade with boardings and confiscations under the guise of customs inspections.

Upon arrival, the ship was welcomed by locals and no improprieties appeared to exist. Unknown, however, to the ship crew, explosive devices were placed at crucial points within the ship, and a small boarding was attempted. Their goal—the power

plant, proved unattainable, and the attempt was beaten off.

The ship's commander, in retaliation, sought out the actual pirate base and destroyed it with ship's weaponry.

Children of the March (FI-6355, later CF-6355) was unusual primarily for its method of financing. The boost to the subsector economy created by the award of construction contracts was important enough to make all areas of the Imperium vie for the privilege. Because the Rim War was taking place on the other side of the Imperium, the Spinward Marches had little chance of receiving a contract.

The Duke of Regina, speaking for the Marches, proposed that the Marches fund one additional ship from its own resources, on the condition that the Marches receive the contract to produce a portion of the total run. The school children of the worlds within the Marches contributed from their lunch money, at a quarter credit each, for the ultimate funding of one ship, and it was named *Children of the March* in their honor.

Acheron High Lightning (FI-6357) was one of the several ships scrapped after damage sustained in the Solomani Rim War. Individual modular sections of the ship was retained and transferred to several outpost worlds after the war. The sections then served as monitoring or scientific outposts in the rimward worlds of the Solomani sector.

Emissary, ex-*Sparkling Distress* (FI-6379) was declared surplus to the needs of the Imperium and sold to Oberlindes Lines. Ordinarily, such ships are sold with a demilitarization agreement, but delivery of this ship took place outside of the Imperial borders, and (through a technicality) could not be forced to be demilitarized. There was some evidence that the entire transaction was coerced by Oberlindes, but this has never been proven.

Because of the technical circumvention of regulations, the ship was not allowed to reenter the Imperium, and was instead operated from an Oberlindes trading center in the Uthe subsector (at Pandrin/Uthe 0610). From there it made excursions into Vargr territory, taking unusual materials, finished goods, and processed ores in exchange for Imperial goods, rare wines, and technological jewels.

The retention of the armament by the Emissary was a bold and well-reasoned move. The strong show of force to the Vargr created a respect that gave an advantage to the traders; fortunately, the gunnery was never actually used in the trading missions.

One Thousand Years (FI-6383, later CF-6383) was a commemorative ship marking the millenium of the Imperium. Its first flight (on New Year's Day, 1000) on Markatch capped the regal night-long millennial celebration and was seen by virtually all the citizenry of that world.

Vermillion Stance (FI-6385, later ISC-6385) was transferred to the scouts following its retirement from the Five Sisters Flotilla. After a refit and refurbishment at Mora/Mora (taking 16 months) the ship was sent spinward in a mission to the client-states beyond the borders. Its mission was to distribute technology to these systems "as a gift from the Emperor," in an effort to forestall Zhodani influence.

The Zhodani obtained an itinerary for the ship and arranged a clandestine reception for it at Garonne. There, they perpetrated a ruse and took over the ship. For years, the fate of the vessel was unknown, with details surfacing only after a prisoner exchange following the Fourth Frontier War.

High Guard Statistics

Traveller includes starship design and construction parameters for ships above 1000 tons in Book 5, **High Guard**. **High Guard** also contains instructions for the determination of a Universal Ship Profile (USP) which is used in starship combat. This section presents USPs for the various models of the *Azhanti High Lightning* class.

Editions of High Guard: There are two versions of **High Guard**.

The first edition is identifiable by a copyright date of 1979 on the publication data page.

The second edition carries a 1980 copyright date on the publication data page, and is a revised, improved, and expanded version incorporating a variety of changes to the first edition. This second edition is an attempt to improve **Traveller** materials as the opportunity arises. The substance of the new material is also contained in a three-part article contained in the **Journal of the Travellers' Aid Society** (Issues 6, 7, and 8), under the assumption that the **Journal** is the best method of dissemination of such material to those players and referees who already have the first edition of **High Guard**.

The **High Guard** ratings for both editions are presented here. Either edition may be used in space combat encounters involving *Azhanti High Lightning* class ships in any of their models.

FLEET INTRUDER

The original *Azhanti* class cruisers carried a particle accelerator as main weapon and missile bays as back-ups. The hull itself bristled with laser turrets and energy weapon installations as small craft defenses. Finally, six squadrons of fighters gave the ship a protective screen.

First Edition: FI-P4525F3-566500-99N09-F

Second Edition: FI-P4525F3-596500-99N09-6

The ship has 13 sandcaster batteries, of which 10 bear.

The ship has 19 laser batteries, of which 15 bear.

The ship has 4 energy batteries, of which 3 bear.

The ship has 24 missile batteries, of which 19 bear.

TANKERS AND AUXILIARIES

Azhantis converted to tanker duty had their bay and major weaponry removed and the hull positions plated over. They retained some of their turret weaponry, for elementary defense, but were always chronically undermanned with gunners. Ships serving as auxiliary cargo carriers in naval service were identical, but carried the designation QC rather than TN.

First Edition: TN-P4525F3-566500-55000-0

Second Edition: TN-P4525F3-566500-55000-0

The ship has 8 sandcaster batteries, of which 5 bear.

The ship has 10 laser batteries, of which 8 bear.

The ship has 3 energy batteries, of which 2 bear.

COMMERCIAL SERVICE, UNARMED

Azhantis converted to commercial service lost their spinal mounts and main weaponry, but prudently retained the self-defense armament necessary for protection against piracy and other hazards.

First Edition: AH-P4525F3-560000-550000-0

Second Edition: AH-P4525F3-560000-550000-0

The ship has 8 sandcasters, of which 5 bear.

The ship has 10 laser batteries, of which 7 bear.

The ship has 3 energy batteries, of which 2 bear.

COMMERCIAL SERVICE, OBERLINES ARMED MERCHANT

The single armed merchant in commercial service retained all of its weaponry, and was known to carry crew to operate it.

First Edition: AG-P4525F3-566500-99N09-0

Second Edition: AG-P4525F3-566500-55N09-0

The ship has 8 sandcaster batteries, of which 5 bear.

The ship has 10 laser batteries, of which 7 bear.

The ship has 3 energy batteries, of which 2 bear.

The ship has 24 missile batteries, of which 19 bear.

IMPERIAL SCOUT CRUISERS

The *Azhantis* transferred to the scout service were generally of the fleet intruder configuration, with the addition of some repulsors and four meson gun bays.

First Edition: SC-P4525F3-566509-99N10-F

Second Edition: SC-P4525F3-566505-99N40-6

The ship has 13 sandcaster batteries, of which 10 bear.

The ship has 19 laser batteries, of which 15 bear.

The ship has 4 energy batteries, of which 3 bear.

The ship has 4 meson gun batteries, of which 3 bear.

The ship has 20 repulsor batteries, of which 16 bear.

FRONTIER CRUISERS

The refurbished *Azhantis* featured a meson gun in place of the old particle accelerator, plus particle accelerators in place of the missile bays.

First Edition: CF-P4525F3-556920-99N6-F

Second Edition: CF-P4525F3-596920-99N7-6

The ship has 10 sandcasters, of which 8 bear.

The ship has 10 laser batteries, of which 8 bear.

The ship has 4 energy batteries, of which 3 bear.

The ship has 24 particle batteries, of which 19 bear.

The ship has 12 missile batteries, of which 9 bear.

SMALL CRAFT

The small craft aboard the *Azhantis* are classified as follows.

Rampart RF-128 FF-0106611-000000-40000-0

Rampart RF-128-2 FL-0106611-000000-00003-0

Gunboat (Armed Launch) NG-0204411-000000-05000-0

Fuel Shuttle TY-4202211-000000-00000-0

Deck Plan Arrangements

The eighty-four decks of the *Azhanti High Lightning* class ships are divided into fifteen different types: the three forward levels contained on deck plan 1, and the twelve additional decks on deck plans 2 to 13. Together, these various deck layouts form the interior of the ships.

In terms of deck plan configurations, there are three distinct types of *Azhantis*—the original cruisers (including the refurbished frontier cruisers), the commercial ships, and the scout ships.

The original cruisers have a layout incorporated into the ships when constructed. Even the refurbishment and conversion from fleet intruder to frontier cruiser did not disturb this construction; turrets and bays were altered, and new weaponry was installed, but the order and types of decks were not changed. The naval cruiser column on the next page shows the types of decks and the order in which they occur.

The commercial ships removed their gunnery, converting all available space to cargo decks. In addition, the hangar decks were removed, and also converted to cargo holds. Each hangar deck was oversize, measuring eighteen (rather than 4.5) meters in height, and each yielded a single cargo deck with four times the standard capacity. Finally, one of the two flight crew quarters decks was retained for passenger service.

The Oberlindes ship is an exception to this standard: gunnery decks and the main weapon deck were retained rather than converted. Thus, its configuration is closer to that of a naval cruiser, except that its hangar deck, ship's troops quarters, and one of the two flight crew quarters decks has been converted to cargo hold.

THE SCOUT SHIPS

All of the scout ships underwent some conversion in deck layout when they were placed in the hands of the Scout Service. The major changes were the suppression of the auxiliary bridge on deck 40 and alterations to the nose of the ship.

EXCEPTIONS AND NOTES

Not all ships in the class were configured exactly the same. In the original plans, a casual bridge was allocated to the domed nose of the ship. It was actually installed in the first three ships, but omitted as too prone to battle damage in later ships. Thus, ships 6326, 6327, and 6328 all have a bridge in the nose, while later ships do not. The scout service ships made use of the fittings in the hull to place a bridge in this position, the location and usefulness of such a bridge being considered of greater importance than the potential of battle damage in the scout service.

The maneuver drives on all ships of this class are mounted in the stubby wings on each side and operated largely by remote fixtures from the jump drive deck. The drives themselves are bulky, but require little on-site maintenance.

Frozen watch facilities on the crew quarters decks of the ships remain in commercial and scout versions, but are used only for emergency survival situations.

Deck No.	Naval Cruiser	Commercial	Scout Service
1—	Lounge	Running Bridge	Auxiliary Bridge
2—	Avionics Deck	Cartography Deck	Cartography Deck
3—	Avionics Deck	Avionics Deck	Avionics Deck
4—	Avionics Deck	Avionics Deck	Avionics Deck
5—	Cartography Deck	Cartography Deck	Cartography Deck
6—	Avionics Deck	Avionics Deck	Avionics Deck
7—	Avionics Deck	Avionics Deck	Avionics Deck
8—	Cartography Deck	Cartography Deck	Cartography Deck
9—	Avionics Deck	Avionics Deck	Avionics Deck
10 to 13—	Fuel Deck	Fuel Deck	Fuel Deck
14—	Gunnery Deck	Cargo Deck	Gunnery Deck
15—	Crew Quarters	Crew Quarters	Crew Quarters
16—	Crew Quarters	Crew Quarters	Crew Quarters
17—	Running Bridge	Cargo Deck	Running Bridge
18—	Crew Quarters	Crew Quarters	Crew Quarters
19—	Crew Quarters	Crew Quarters	Crew Quarters
20—	Cargo Deck	Cargo Deck	Cargo Deck
21—	Cargo Deck	Cargo Deck	Cargo Deck
22 to 24—	Fuel Deck	Fuel Deck	Fuel Deck
25—	Gunnery Deck	Cargo Deck	Gunnery Deck
26 to 34—	Fuel Deck	Fuel Deck	Fuel Deck
35—	Gunnery Deck	Cargo Deck	Gunnery Deck
36—	Crew Quarters (Troops)	Cargo Deck	Crew Quarters
37—	Crew Quarters (Troops)	Cargo Deck	Crew Quarters
38—	Crew Quarters (Troops)	Cargo Deck	Crew Quarters
39—	Crew Quarters	Cargo Deck	Cargo Deck
40—	Auxiliary Bridge	Cargo Deck	Cargo Deck
41—	Upper Power Plant	Upper Power Plant	Upper Power Plant
42—	Upper Power Plant	Upper Power Plant	Upper Power Plant
43—	Upper Power Plant	Upper Power Plant	Upper Power Plant
44—	Upper Power Plant	Upper Power Plant	Upper Power Plant
45—	Upper Power Plant	Upper Power Plant	Upper Power Plant
46—	Lower Power Plant	Lower Power Plant	Lower Power Plant
47—	Gunnery Deck	Cargo Deck	Gunnery Deck
48 to 56—	Fuel Deck	Fuel Deck	Fuel Deck
57—	Gunnery Deck	Cargo Deck	Gunnery Deck
58 to 65—	Fuel Deck	Fuel Deck	Fuel Deck
66—	Main Weapon Deck	Cargo Deck	Main Weapon Deck
67—	Main Weapon Deck	Cargo Deck	Main Weapon Deck
68—	Flight Crew Quarters	Cargo Deck	Flight Crew Quarters
69—	Hangar Deck	Cargo Deck	Hangar Deck
70—	Gunnery Deck	Cargo Deck	Gunnery Deck
71—	Hangar Deck	Cargo Deck	Hangar Deck
72—	Flight Crew Quarters	Passenger Quarters	Flight Crew Quarters
73—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
74—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
75—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
76—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
77—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
78—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
79—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
80—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
81—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
82—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
83—	Jump Drive Deck	Jump Drive Deck	Jump Drive Deck
84—	Boat Dock Deck	Boat Dock Deck	Boat Dock Deck

Forward Decks

The forward decks comprise three distinct deck types as the first nine levels of the ship. These smaller decks are all contained in the goose-neck located forward on the ship.

CASUAL BRIDGE

The casual bridge is a small auxiliary bridge present in only a few of the ships. In all others, this deck is entirely empty.

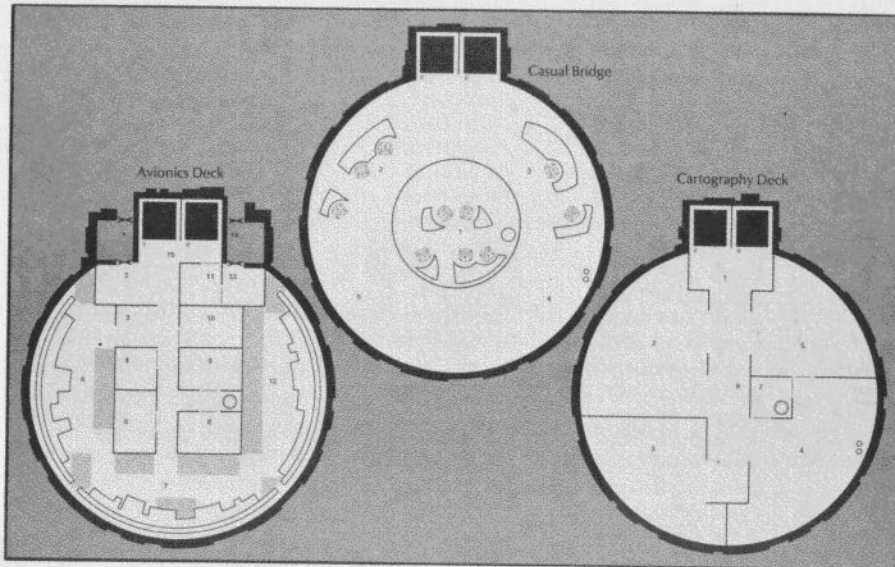
1. Bridge. Contains controls for the ship. Note the floor iris valve located in this area. The crew positions are: 1. Captain, 2. Environment and Damage Control, 3. Astrogator, 4. Helm, and 5. Engineering. This bridge, when in use, is capable of controlling all necessary functions of the ship.

2. Information center. Contains external scanner and detector console panels. The crew positions are: 6. Tactical Display Control, 7. Analysis Desk, and 8. Profile Desk. This section manages all incoming information.

3. Gunnery station. Contains fire direction controls. The crew positions are: 9. Gunnery Officer, 10. Assistant Gunnery Officer. This section can manage all fire-power for the ship, although actual operations would take place on other decks.

4. Holographic display. The high ceiling of the dome covering this deck allows a holographic display of stellar or system situations in this area.

5. Open lounge. This area is used for the entertainment or visiting officers and dignitaries and contains a refreshment bar, seating, and other conveniences for guests.



AVIONICS DECK

Most of this deck is devoted to scanners and detectors which are mounted just within the outer hull structure of the goose-neck. The center of the deck is occupied by the electronic mechanisms which support these detectors.

1. Air lock communicating with the dorsal surface of the gooseneck.
2. Vestibule containing bulletin boards and maintenance notices.
3. Duty station containing desks and computer terminals for personnel on maintenance watch.
4. Scanner electronic mechanism compartment.
5. Long range detector electronics assembly.
6. Scanner antenna and reception grid.
7. Detector antenna and focussing equipment.
8. Detector electronics and monitoring station.
9. Scanner monitoring station.
10. Maintenance equipment and instrument storage room.
11. Security station. Contains positions for security personnel.
12. Scanner antenna and reception grid.
13. Security station. Contains positions for security personnel.
14. Air lock communicating with the dorsal portion of the gooseneck.
15. Lift access area. Contains lift call buttons and waiting area.

CARTOGRAPHY DECK

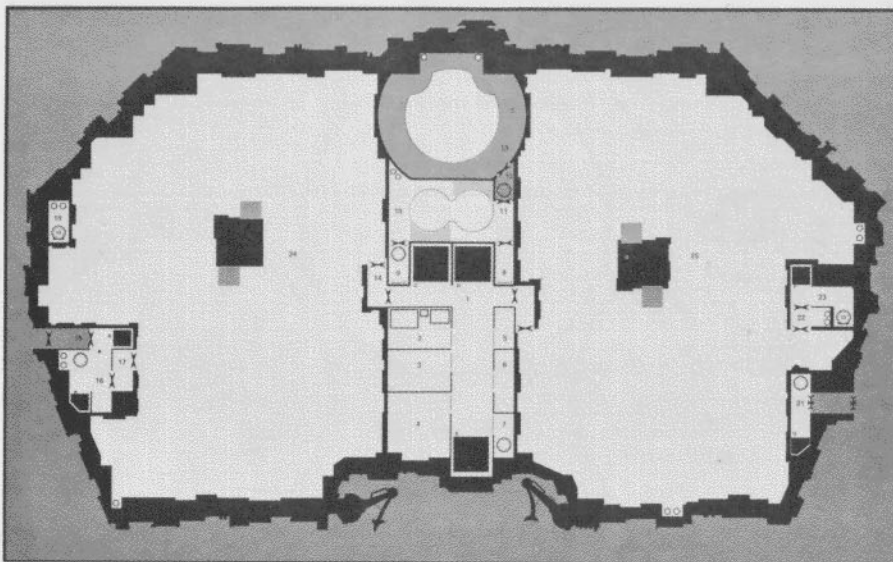
This deck is primarily used for storage of stellar and planetary mapping materials. Much of the material here is also in the computer, but these masters are used for quality reproduction of maps and charts. On many ships, this deck may be converted to officer's quarters, briefing rooms, or classrooms.

1. Lift access area. Contains lift call buttons and waiting area.
2. Planetary mapping materials. Contains master map grids for worlds and planets. The entire room is composed of low cabinets and viewing tables.
3. System mapping materials. Contains star system master map grids.
4. Subsector mapping materials. Contains master mapping grids of subsectors and stellar groups.
5. Duplication facilities. Master grid materials may be reproduced in the equipment here and then disseminated.
6. Corridor.
7. Vertical access chamber communicating above and below.

Fuel Deck

The fuel deck contains liquid hydrogen for the ship's drives in two identical 200 ton tanks. The fuel is used for small craft or for jump or power plant operations.

1. Main corridor. Access to the major parts of the deck are via this hallway.
2. Computer terminals and control monitors for the fuel deck.
3. and 4. Duty offices for this deck. Minor maintenance is performed on equipment in these two rooms, as is study and repairs of parts and fixtures.
5. and 6. Closet for vacc suits.
7. Vertical access chamber for floor and overhead iris valves.
8. and 9. Maintenance access chambers.
10. and 11. Flight launch tube access station. These two areas are separated by the expanse of the launch tube but can be jumped across if necessary.
12. Air lock. Allows access to spinal gun mount.
13. Spinal gun mount. Circular gangway contains focussing magnets.
14. Air lock leading to L-Hyd fuel tank. An identical air lock leads to the other tank on the opposite side of the ship.
16. Maintenance access area connecting to starboard air lock.
17. and 18. Air locks connecting with fuel tanks and starship exterior hull.
19. Conduit access chamber connected to upper and lower decks by hatches.
21. Lift and iris valve chamber. An exterior air lock provides access to the hull.
22. Air lock leading to L-Hyd fuel tank. Allows access to conduits.
23. Access chamber allowing elevator and hatch bypass as necessary.
24. and 25. L-Hyd cooling units used to maintain temperature in fuel tanks.



Crew Quarters Deck

The crew quarters deck contains the staterooms for the crew of the ship. In addition, this deck is the primary social and living area, and contains medical and kitchen facilities.

1. Lift access area. Contains lift call buttons and a waiting area.
2. General area. This area is used for dining. When not otherwise in use, it serves as a recreation area for crew members.
3. Galley. Food preparation is performed by automatic equipment in this area.
4. Maintenance equipment closet.
5. Maintenance equipment closet.
6. Vertical access chamber.
7. Recreation area. This area is designed for use in a wide variety of functions, and contains entertainment equipment, lounge furniture, and video screens.
8. Recreation area. This area is similar to area 7. It is separated from that area by a collapsible curtain. When taken down, the two areas are joined for large meetings, lectures, briefings, or entertainment.
9. Recreation machines. This small area contains electronic and mechanical games for crew entertainment.
10. Frozen watch supervision area. Contains medical and monitoring equipment used with the frozen watch low berths in adjacent compartments.
11. Frozen watch. This chamber contains additional and replacement crew members in suspended animation. They are used to replace injured or ill crew members, especially after combat action.
12. Frozen watch. As in 11.
13. Deck computer supervision room.
14. Deck room. The officer of the deck stands duty on in this room.
15. Officer's stateroom.
16. Officer's stateroom.
17. Officers' lounge.
18. Maintenance area.
19. Meeting room.
20. Lift access area.
21. Maintenance closet.
22. Lounge and recreation area.
23. Stateroom.
24. Stateroom.
25. Lounge area.
26. through 47. Staterooms. The typical crew member stateroom may be occupied by one or two persons, depending on rank and crew density. The room contains a bed for each person, storage facilities for clothing and personal items, as well as toilet facilities and running water. The room is entirely selfcontained, and many items of furniture fold into the walls when not in use.

Each stateroom contains an intercom which allows communication with any part of the ship, and a video screen for access to the computer and to entertainment

tapes in the ship's library.

48. Lounge.

49. through 52. Stateroom.

53. Maintenance closet.

54. through 55. Staterooms.

56. Medical facility. This room contains minor medial diagnostic and treatment facilities sufficient to treat minor injuries and diagnose serious illness. In the event of serious illness or wounds, the individual is generally transferred to the frozen watch.

57. Maintenance areas.

58. Lift access area.

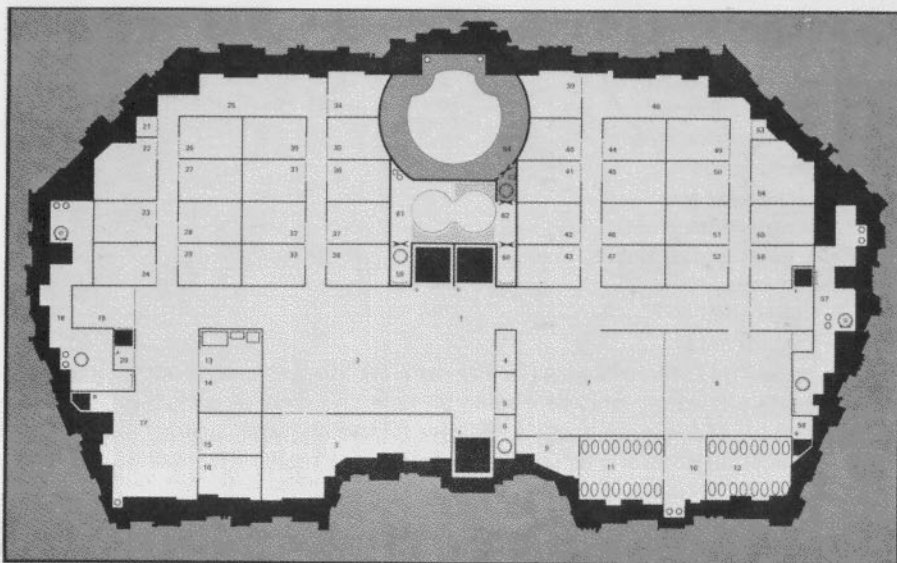
59. Maintenance chamber.

60. Maintenance chamber.

61. and 62. Fighter launch tube access station. These two areas are separated by the expanse of the launch tube, but may be jumped across if necessary.

63. Air lock. Allows access to the spinal gun mount.

64. Spinal gun mount. The circular gangway contains focussing materials.



Bridge

The bridge deck contains the operating controls for the starship and crew quarters for certain command personnel. In addition, the auxiliary bridge provides duplicate controls for use in the event of damage to the ship, or for fleet control when the ship is used as a flagship. In such situations, the quarters on the auxiliary bridge are used by the fleet admiral.

1. Captain's sleeping chamber.

2. Captain's den.

3. Captain's office.

4. Anteroom.

5. Executive officer's office.

6. Executive officer's den.

7. Executive officer's sleeping chamber.

8. Stateroom or office.

9. Maintenance passage.

10. Maintenance passage.

11. Conference room.

12. Flight launch tube access station.

13. Maintenance access chamber.

14. Stateroom (captain's seneschal or secretary).

15. Stateroom (captain's valet).

16. Stateroom or office.

17. Stateroom or office.

18. Ship's computer.

19. Galley. Food preparation facilities are contained on this deck for the convenience of crew on duty.

20. Stateroom or office.

21. Office. Officer of the Day duty position.

22. Refreshment bar area.

23. Lounge.

24. Security room.

25. Captain's day cabin. The ship's commander maintains this office for meetings with crew and dignitaries.

26. Bridge.

27. Storage.

28. Ready room.

29. Ready room.

30. Security room.

31. Maintenance passage.

32. Maintenance room.

33. Maintenance access chamber.

34. Flight launch tube access station.

35. Spinal gun mount.

36. Air lock.

Bridge Stations: The bridge consists of a raised central dias and 35 specific crew positions, both on and off the central area. These crew chairs are—

Command Locations.

1. Captain.
2. Supernumerary Station.

Engineering and Maneuvering.

3. Chief Engineering Officer.
4. Maneuvering Officer.
5. Jump Drive Bridge Repeaters.
6. Jump Control Officer.
7. Power Plant Bridge Repeaters.
8. Maneuver Drive Bridge Repeaters.
9. Astrogator.
10. Helm.

Combat Information Center (CIC).

11. Executive Officer.
12. Analysis Desk.
13. Tactical Display Control.
14. Profile Desk.

Environmental and Damage Control.

15. Environmental Control Officer.
16. Damage Control— Atmospheric.
17. Damage Control— Radiation.

18. Damage Control— Structural.

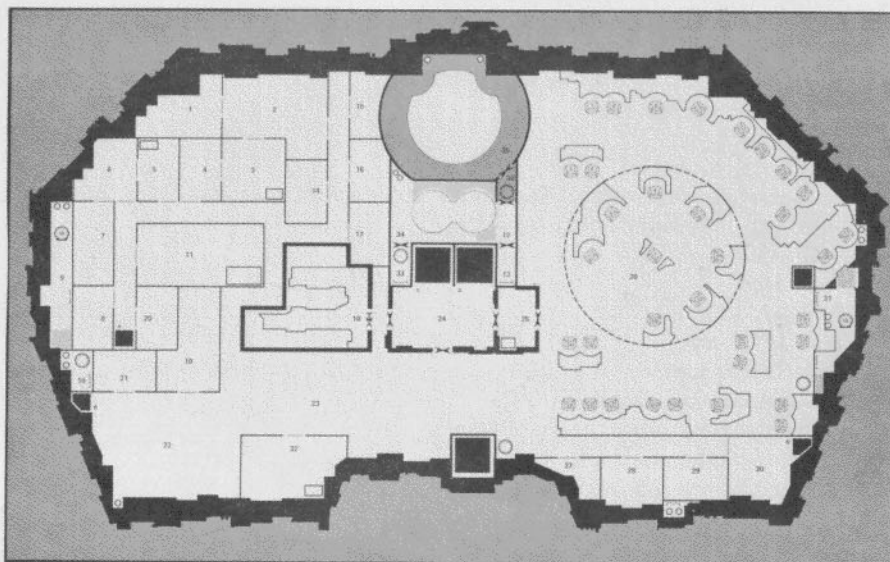
19. Damage Control— Systemic.

Flight Control.

20. Flight Officer (Flight Group Cdr)
21. Launch Control Officer.
22. to 27. Sqdrn Flight Controller.

Gunnery and Fire Control.

28. Chief Gunnery Officer.
29. and 30. Primary Engagement Fire Direction Officer and Assistant.
31. Screen and Damper Officer.
32. Close Defense Officer.
33. Anti-Missile Fire Coordinator.
34. and 35. Secondary Engagement Fire Direction Officer and Assistant.



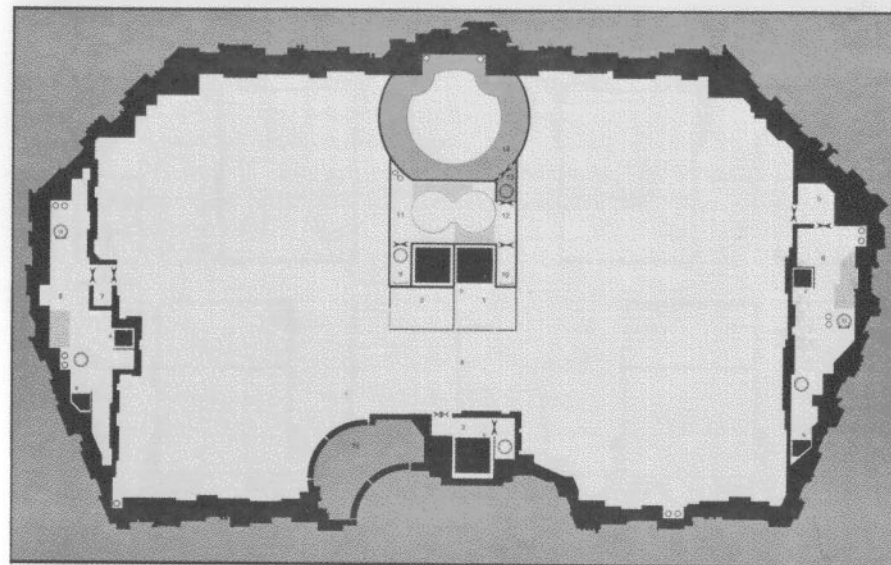
Cargo Hold

The cargo deck is used for the storage of equipment, supplies, and merchandise as the ship moves between the stars. On commercial ships, this deck is the reason for the ship's existence. On military ships, this deck may be used to store missiles or ordnance for planetary bombardments, or may carry military equipment (vehicles, shelters, large weapons) for the ship's troops. On exploratory vessels, this deck may carry samples and specimens from worlds visited and explored.

1. Security chamber.
2. Duty station.
3. Security chamber.
4. Cargo area.
5. Access lock.
6. Maintenance area.
7. Access lock.
8. Maintenance passage.
9. and 10. Maintenance access chamber.
11. and 12. Flight launch tube access station.
13. Air lock.
14. Spinal gun mount.

15. Cargo transfer air lock. Large cargos may be placed directly in the cargo hold through this transfer lock. In most cases, the cargo is transferred between ships in a cargo handling operation, and will be exposed to vacuum in the process.

Smaller cargos are transferred to the ship through the boat dock deck and the lift shafts.



Gunnery Deck

Each gunnery deck contains four of the large weapons bays distributed throughout the ship. These mounts support the extensible weapon modules which carry the major secondary armament of the ship.

Also contained on the deck are deck gunnery stations for the batteries of other weapons (small laser turrets, small missile turrets, and other close defense ordnance) distributed over the hull of the ship.

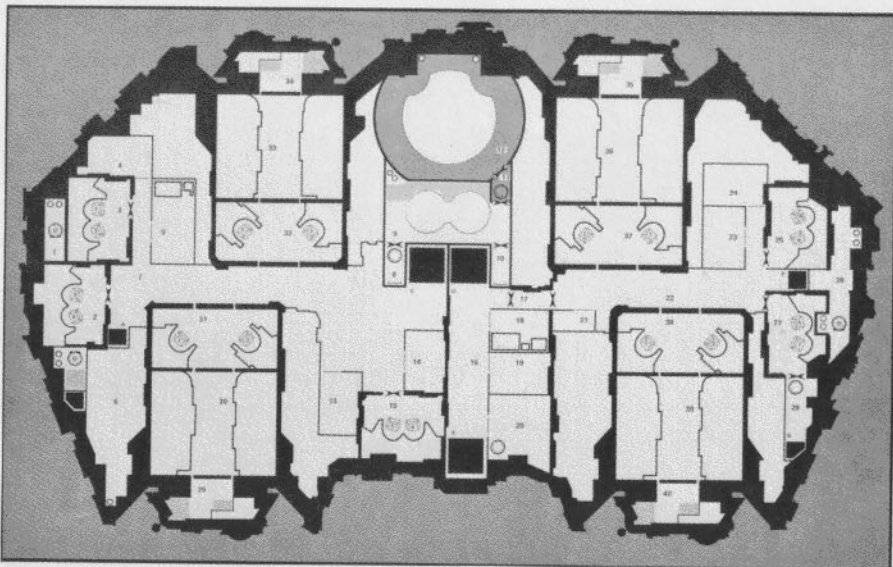
Each weapon bay is accessed by special blast doors, which function as ordinary doors, but resist explosions and damage as if they are structural bulkhead.

A battery is a group of weapons fired under the control of one gunner, and may consist of one or more mounts. The gunnery deck contains six battery director (gunner) stations, four of which operate the mounts on the deck, and two of which are committed to operating other ordnance. Each deck also has its own fire director and target acquisition capability if central fire control is knocked out. Finally, training simulator positions are provided for programmed instruction of gunners in the operation of the weaponry; these positions are not used in combat situations.

1. Maintenance passage.

2. Deck gunnery station. This station contains battery directors for weaponry; they are paired for mutual support and back-up, and the station is capable of maintaining independent pressure and environment in combat situations. This station is under the command of the deck fire control officer or the bridge fire control officer, depending on the situation.

Crew positions 3 and 4 are battery directors.



3. Deck gunnery station. Similar to 2. Crew positions 1 and 2 are battery directors.

4. Stateroom.

5. Deck computer installation.

6. Equipment access passage.

7. Corridor.

8. Maintenance access phamber.

9. Flight launch tube access station.

10. Maintenance access chamber.

11. Air lock.

12. Spinal gun mount.

13. Stateroom.

14. Stateroom or office.

15. Deck gunnery station. Similar to 2. Crew positions 5 and 6 are battery directors.

16. Corridor.

17. Air lock.

18. Deck computer installation.

19. Office or stateroom.

20. Vertical access chamber.

21. Maintenance closet.

22. Corridor.

23. Office or stateroom.

24. Office or stateroom.

25. Deck gunnery station. Similar to 2, except that the consoles are training consoles, and this station is used for practice and instruction. Crew positions 9 and 10 are practice battery directors.

26. Maintenance passage.

27. Deck fire direction center. This station contains the contingency fire director and target acquisition officer; they function when the bridge fire direction center is not operational. Crew positions 7 and 8 are fire control officer and target acquisition officer.

29, 34, 35, and 40. Bay weapon mounts.

30, 33, 36, and 39. Interior mechanism.

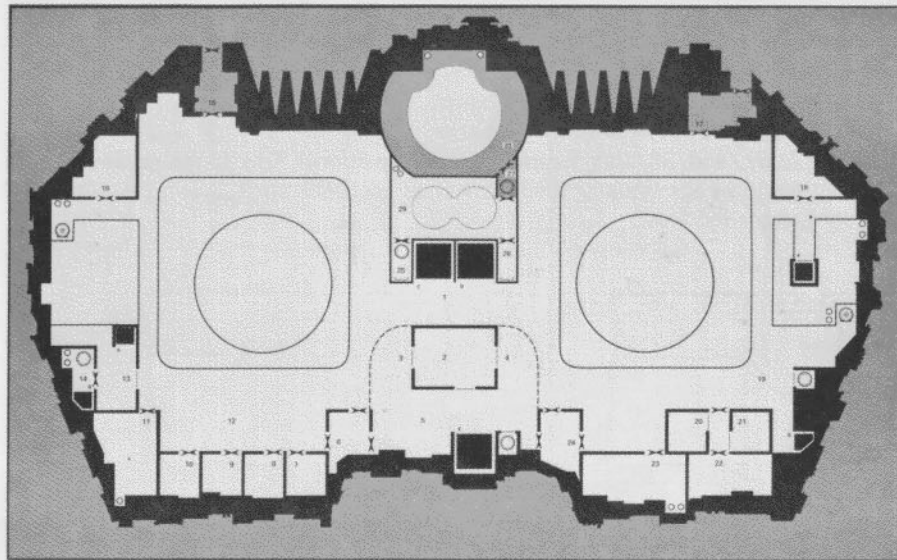
31, 32, 37, and 38. Bay weapon gunner positions. This is the point at which the bay weapons are actually fired. The crew positions are 1, system monitor, and 2, gun director (gunner).

Power Plant Deck (Upper Level)

The upper levels of the power plant deck are a series of balconies which surround the upper reaches of the power plant housings. Bridges and catwalks allow access to various parts of the equipment.

Much of the activities on these decks is devoted to proper operation of the power plant, insuring that fuel consumption is within tolerances and that the equipment does not strain or overload.

1. Lift access area. Contains lift call buttons and a waiting area.
2. Supervision station. This is the main supervisory position for the deck; engineering officers perform their duties in this office area.
3. Port oversight station. This position provides supervisory personnel with visual command of the port power plant housing. The dashed line is transparent wall. It is transparent to light (laser weapons) and treated as wall for all other weapons. It is pressure-tight.
4. Starboard oversight station. This position performs the identical function as 3 with regard to the starboard power plant housing.
5. Administration area.
6. Transit air lock.
7. Electronics shop.
8. Gravitics module repair station.
9. Mechanical repair station.
10. Vacc suit storage.
11. Crew rest area.



12. Balcony.
13. Lift access area.
14. Maintenance passage.
15. Safety area.
16. Air lock.
17. Air lock.
18. Safety area.
19. Balcony.
20. Fuel quality test station.
21. Fuel quality test station.
22. Mechanical test station.
23. Electronic test station.
24. Transit air lock.
25. and 26. Maintenance access chamber.
27. Air lock.
28. Spinal gun mount.
29. Flight launch tube access station.

Power Plant Deck (Lower Level)

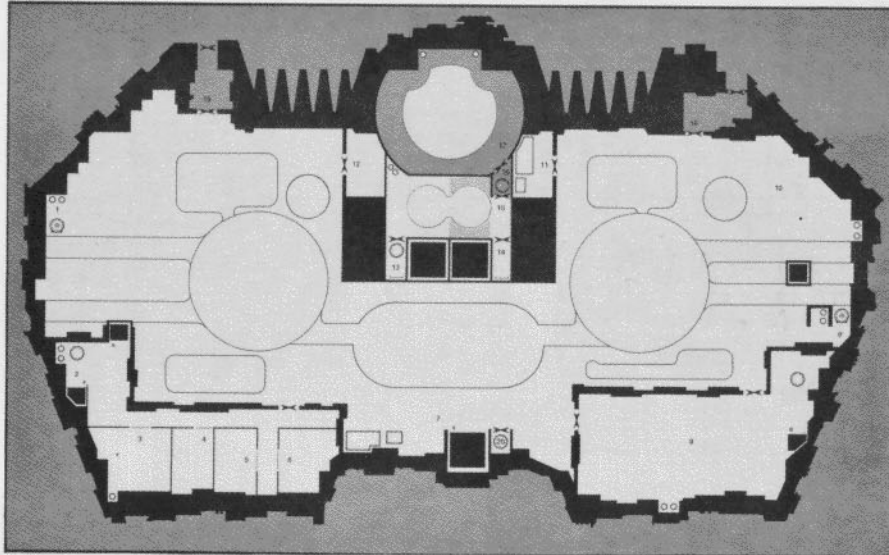
The lower power plant deck is the foundation for the power plants which furnish energy to the ship. The massive power generating machinery dominates the decks and obstructs most movement in the area.

The deck is laid out with pressurized safe areas for the engineering crew who operate the power plant. Much of their duty is spent in these areas, especially when the power plant is operating in conjunction with the jump drives. Routine maintenance has these same crew members crawling all over the heavy machinery conducting checks and counter-checks.

The fins on the dorsal side of the ship (accessed by the air locks to port and starboard) are used to radiate excess heat from the power plant when it is in overload or high capacity function.

The extensions of the power plant on each side lead to fuel tankage and serve to provide fuel to the equipment when needed. All machinery on this deck is about the height of a person (except for the two housings, which extend through the upper decks), blocking line of sight and providing cover.

1. Vertical access area.
2. Vertical access area.
3. Drive power monitors.
4. Performance analysis station.
5. Duty station.
6. Off-duty rest area.
7. Performance monitoring station.



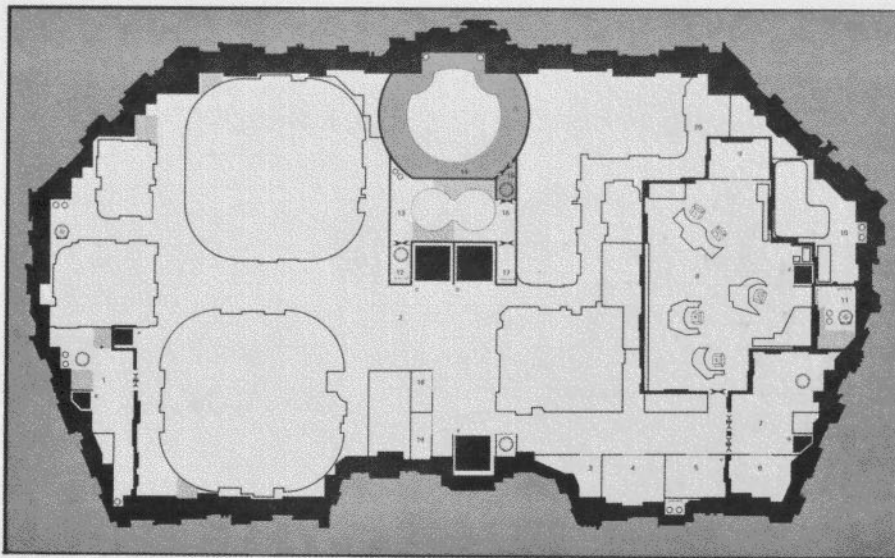
8. Crew assembly area.
9. Vertical access area.
11. Computer installation.
12. Safety station.
13. and 14. Maintenance access chamber.
15. Flight launch tube access station.
16. Air lock.
17. Spinal gun mount.
18. and 19. Air lock.

Main Weapon Deck

The main weapon deck contains the mechanisms for the particle accelerator or meson gun main weaponry for the starship. The equipment on this deck generates the weapon beam for introduction into the spinal tube. In addition, fire control for the weapon is performed from this deck.

The weapon on this deck may be the original particle accelerator used in the fleet intruders, or it may be the new model meson gun installed on the frontier cruisers. Since the meson gun was a "drop-in" replacement, this deck serves for both weapons.

1. Maintenance passage.
2. Lift access area.
3. Weaponry replacement parts storage. This room stores replacement parts for the various weapon components of the main gun. In addition to periodic replacement of parts, emergency replacement of components is often required. Crew on this deck are trained for such action.
4. Electronics repair shop. Many operating electronic modules within the gun system can be removed, replaced, and repaired on this deck. This shop contains full facilities for diagnosis of failure or malfunction, and repair or replacement of individual components.
5. Stateroom or office.
6. Security station. Because of the sensitivity of this deck, marine guards are posted in this station to control access to the fire control station.
7. Vertical access area. This area allows movement up or down the ship through



the lift shaft or via the iris valve.

8. Fire control station for main weapon. This area contains the operating controls for the spinal weapon mount. It is insulated from possible damage by heavy structural bulkheads, and can be self-sufficient for days at a time.

The positions for weapon fire control are— 1 and 2, Systems Monitors, 3, Fire Control Officer, 4, Target Acquisition, and 6, Attack Analysis.

9. Stateroom. This area is used for rest for off-duty crew when weapons are manned full time.

10. Maintenance passage.
11. Maintenance passage.
12. Maintenance access chamber.
13. Flight launch tube access station.
14. Spinal weapon mount.
15. Air lock.
16. Flight launch tube access station.
17. Maintenance access chamber.
18. Vacc suit storage.
19. Maintenance equipment storage.

Flight Crew Deck

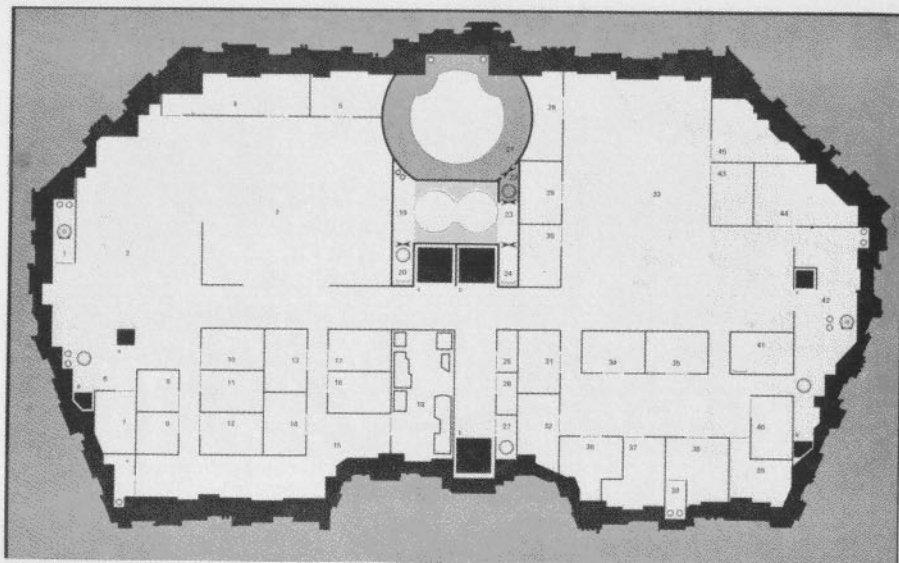
The flight crew deck contains quarters for the pilots and maintenance crew for the ship's fighter squadrons and small craft. A separate deck for flight crew is maintained to keep the personnel close to the hangar decks, and to keep the squadron personnel in the same area.

Flight crew decks are self-contained, and provide living, sleeping, medical and recreation facilities for all concerned.

1. Vertical access area.
2. Recreation area.
3. Mess area.
4. Galley.
5. Storage.
6. Vertical access area.

7. Stateroom. Flight crew staterooms are generally double occupancy and contain fold-away bunks in addition to the standard storage facilities for personal clothing and effects. Each stateroom contains toilet and running water, and includes an intercom for communication within the ship, and a computer terminal with access to entertainment channels and the ship's computer.

8. through 14. Crew staterooms. Similar to 7.
15. Personnel lounge.
16. and 17. Crew staterooms.
18. Deck computer installation.
19. Flight launch tube access station.



20. Maintenance access chamber.
21. Spinal gun mount.
22. Air lock.
23. Flight launch tube access station.
24. Maintenance access chamber.
25. Maintenance closet.
26. Maintenance closet.
27. Vertical access area.

28. Medical bay. This area contains personal medical treatment facilities for all flight crew. Capabilities include routine examination, diagnostics, and treatment for both minor and serious injury.

29. Recreational area. This room provides a small private setting for small groups and crew recreation.

30. Equipment storage. This room is used for storage of recreational and training equipment used in area 33.

34 to 41. Staterooms.

42. Vertical access area.

43. Squadron office. One flight squadron maintains offices and records in this area. Contents of the office include computer terminals, general office and administrative equipment, and squadron memorabilia.

44. Squadron office. Similar to 43.

45. Squadron office. Similar to 43.

Hangar Deck

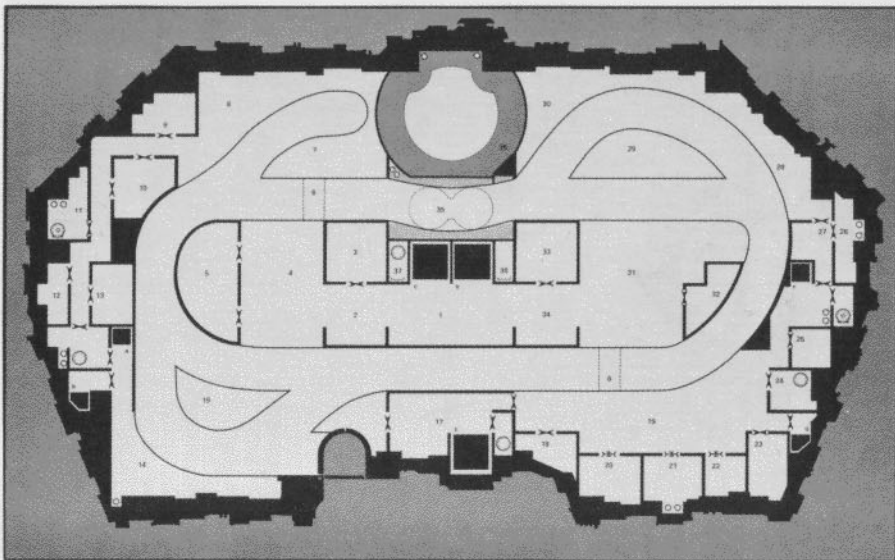
The hangar deck is characterized by its oval "race-track," which serves as a conduit to hold the fighters and small craft within the ship. The track (or fighter well) holds the small craft solidly against maneuver forces, and allows them to be manipulated to various stations, for pre-flight checks, maintenance activity, repairs, crew boarding, and launch operations. Fighters, entering either through the ventral recovery lock (16) or the from of the ship entry through the launch tubes (35), are transferred to the fighter well and handled by maintenance and flight crew.

The entire hangar deck is 18 meters high, and most of it is occupied with handling machinery, fuel tankage, munitions storage, and other essentials. The deck area used by personnel is at about the cockpit level of the small craft, allowing easy entry by the pilots.

Generally, fighters move on along the fighter well in a clockwise direction. Pilot entry and boarding is performed near locations 4 and 7 prior to launch; debarkation is performed near location 31 when recovery is via the launch tubes or location 14 when recovery is via the recovery lock.

Beacuse there are two hangar decks, each tends to use only one launch tube. The upper uses the port tube, while the lower uses the starboard tube. However, either deck may use either tube if necessary, and coordination between the two decks is constant.

It is possible for fighters (or small craft) to be moved through the launch tube positions without being launched, and this procedure is often performed in order to manipulate fighters to positions for maintenance or repair.



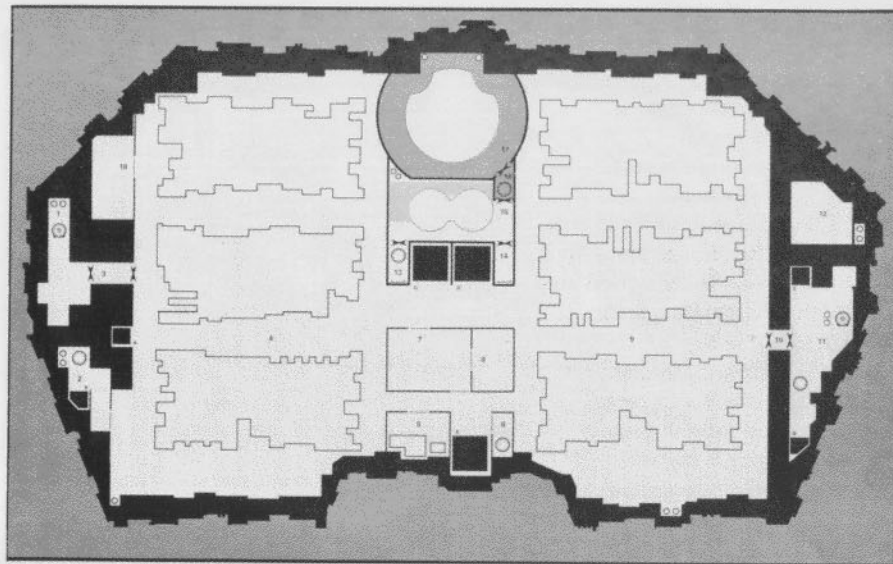
The sidings on the fighter well track are used to divert small craft into repair or maintenance bays for relatively long periods of time without disrupting or halting movement on the main track. These sidings are also used to divert small craft from launch at the last moment, should final checks fail, the craft suffer damage, or the mission be aborted.

1. Lift access area. Contains lift call buttons and a waiting or assembly area.
2. Pilot check-in. Arriving pilots report to this area for confirmation prior to moving to their craft.
3. Flight uniform storage. Special flight equipment (helmets, survival vests, survival kits) are stored here for issue to pilots.
4. Fighter pilot ready room. Equipped pilots wait in this position prior to boarding their craft.
5. Safety area.
6. Retractable bridge. This structure allows crossing the deep fighter well. It retracts to permit passage of fighters and small craft for launch.
7. Small craft maintenance area.
8. Small craft maintenance area.
9. Safety area.
10. Medical station.
11. Vertical access area.
12. Safety area.
13. Repair and maintenance chamber.
14. Fighter inspection area.
15. Fighter maintenance area.
16. Fighter recovery lock.
17. Lift access area.
18. Medical area.
19. Small craft inspection area.
20. Electronic module repair station.
21. Gravitic module repair station.
22. Storage.
23. Storage.
24. Vertical access area.
25. Safety area.
26. Maintenance access.
27. Safety area.
28. Vehicle maintenance area.
29. Vehicle disarmament area.
30. Small craft inspection area.
31. Pilot debriefing area.
32. Safety area.
33. Equipment storage.
34. Pilot check-out area.
35. Fighter launch tubes.
36. Spinal gun mount.
37. Maintenance access chamber.
38. Maintenance access chamber.

Jump Drive Deck

The jump drive decks are cluttered with large jump generators, the mechanisms used to generate the ship's movement through jump space. The eleven decks are filled with these large, ungainly jump drives and with monitoring facilities.

1. Vertical access area.
2. Vertical access area.
3. Air lock.
4. Jump drives. Each large machine is at least as tall as a person, and blocks line of sight. These machines interconnect with each other through the flooring of the deck, and through extensions which reach up to decks above and down to decks below. Connections also extend though the lowest deck to the boat dock deck which is the farthest aft point in the ship.
5. Deck computer installation. This computer terminal facility provides monitoring and supervision of the jump drive output. It also functions as the computer outlet for this deck.
6. Vertical access area.
7. Jump drive monitoring station. This room contains the repeaters which indicate the performance of the jump drive, as well as providing data on the function of the maneuver drives and the power plants. Engineering crew stand duty in this area when the jump drives are in operation.
8. Jump drive supervisor. This private office is used by the chief (or deck assistant chief) engineer.
9. Jump drives. Similar to 4.



10. Air lock.
11. Maintenance passage.
12. Fuel line and reserve tankage. Liquid hydrogen fuel is carried from the fuel decks through here to the jump drives.
13. and 14. Maintenance access chambers.
15. Flight launch tube access station.
16. Air lock.
17. Spinal gun mount.

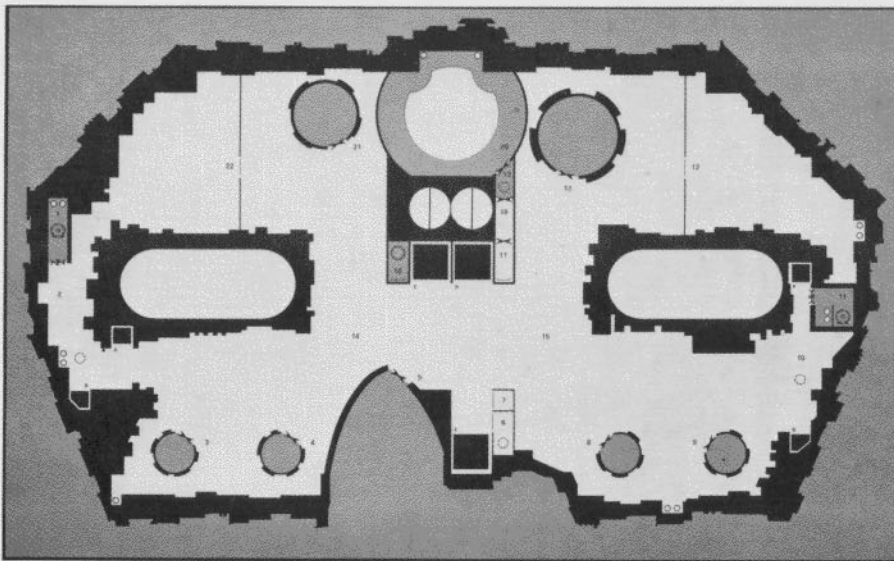
Boat Dock Deck

The boat dock deck is located at the extreme aft end of the ship, and is pierced by elements of the jump drives. In addition, the spinal gun tube and the fighter launch tubes extend through this deck to the outside. Scattered throughout this deck are seven boat docks, each intended to allow docking by small craft and the embarkation or discharge of personnel and cargo.

The boat docks are designed to allow docking by cylindrical craft measuring 3 meters (docks 3, 4, 8, and 9), 4.5 meters (dock 21) and 6 meters (dock 13) in diameter. In addition, the large dock (location 5) allows berthing by the 400-ton fuel shuttles.

The floor hatches on this deck communicate with the vacuum of space, and are all contained in air locks or maintenance areas. The ends of the fighter launch tubes are closed by large pressure doors when not in use.

1. Air lock. This lock leads to the exterior of the ship.
2. Vertical access area.
3. Boat dock. This dock accepts 3 meter diameter craft, such as the armed gunboat.
4. Boat dock. Similar to 3.
5. Fuel shuttle dock. This dock accepts the large fuel shuttle.
6. Vertical access area.
7. Maintenance closet.
8. Boat dock. Similar to 3.
9. Boat dock. Similar to 3.



10. Vertical access area.
11. Air lock. This lock communicates to the outside of the ship.
12. Security station. Marine guards from the ship's security force stand duty in this area.
13. Boat dock. This dock accepts a 6 meter pinnacle or cutter.
14. Reception area. In view of the fact that large numbers of personnel may be proceeding through this deck, open reception areas have been left to accommodate traffic.
15. Reception area. Similar to 14.
16. Maintenance access chamber.
17. Maintenance access chamber.
18. Flight launch tube emergency door controls. This location contains the manual mechanisms and controls which allow the retraction of the large doors sealing the aft entrances to the flight launch tubes.
19. Air lock.
20. Spinal gun mount.
21. Boat dock. This dock accepts a 4.5 meter pinnacle or boat.
22. Security station. Similar to 12.

Small Craft

The small craft deck contains overhead views of four different types of craft: the 400-ton fuel shuttle (admittedly small only in comparison to the *Azhanti High Lightning*), the Rampart RF-128 single place fighter and its companion dual place model, and a gunboat.

THE FUEL SHUTTLE

The large fuel shuttle is oval in cross-section, and is used to skim fuel from gas giants or oceans. The bridge of the shuttle extends forward, beyond the nose of the ship itself, while the maneuver drives are contained in the rear. The ship is not capable of jump independently.

When carrying fuel, the entire cargo area is used. When carrying passengers and cargo, the central portion is a much smaller deck area isolated from the fuel tanks by floor and ceiling. Boarding of the cargo deck is via a ramp leading to the rear of the ship.

The fuel shuttle normally requires a crew of four—pilot, chief engineer, and two assistant engineers. In an emergency, it can be operated by one person—the pilot.

The locations aboard the fuel shuttle are:

1. Bridge. One crew person, the pilot, operates the craft from this position.
2. Air Lock. This air lock will mate with the fuel shuttle dock on the boat dock deck.

3. Passenger Area. Seating for ten passengers is contained in this location. As a result, the fuel shuttle can be used to ferry personnel even as it makes fuel runs, and without loss of the large central compartment for fuel storage.

4. Scoop Mechanism. The nose of the shuttle contains pumps and compressors which skim the hydrogen atmosphere of a gas giant. This equipment fills the fuel tanks.

5. Cargo Area. This central fuel storage area can also be used to carry cargo. When carrying fuel, its capacity is 350 tons. When carrying cargo, its capacity is 120 tons.

6. Access Corridor. This passageway is independent of the cargo or fuel area, and can maintain pressure. Thus, it provides access between the bridge and the drives without the use of a vacc suit.

7. Port Drive Controls. This area contains the engineering controls for the port drives of the shuttle.

8. Starboard Drive Controls. This area contains the engineering controls for the starboard drives of the shuttle.

THE FIGHTERS

The Rampart RF-128 and RF-128-2 fighters are small streamlined combat craft with stubby wings and limited control surfaces. The wings are semi-retractable, enough to reduce the craft's diameter to 3 meters and allow use in the launch tube.

Each fighter is a 15-ton craft constructed at tech level 15. The two different

models have two distinct features—weaponry and crew size.

The Single Place Fighter is laser armed, and has only one position—for a pilot.

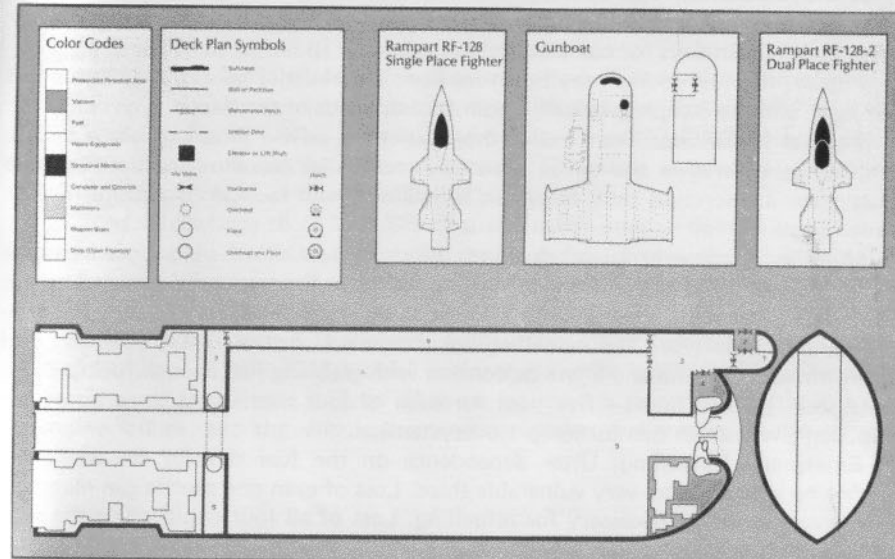
The Dual Place Fighter is missile armed, and has two crew positions in its double cockpit. The craft is used for squadron command and control in combat situations. In addition, the dual place configuration is used for training of new pilots or for periodic check-rides for pilots within the squadron.

THE GUNBOAT

The gunboat is a 20-ton small craft with retractable wings, streamlined for atmospheric operations. The retractable wings allow the craft to fit in the launch tubes and hangar deck of the cruiser.

The gunboat operates with a crew of one pilot.

By its name, it is obvious that the gunboat is armed. This weaponry consists of a laser gun mount fitted into the cargo and passenger compartment. It can be removed to allow non-violent operations. In combat situations, the entire cargo door opens, and the laser gun is mechanically extended out into the position shown on the drawing. It fires from this position.



Refuelling

The only practical way for military starships to move from system to system requires that they refuel in each (or nearly each) system as they visit it. The source of this fuel is the large gas giant that nearly every system has. In the absence of a gas giant, water from a local ocean or ice cap can be used instead.

Tanks are filled with raw gas; refined or purified fuel is then produced with on-board catalysts. The normal procedure is to skim through the atmosphere or land on the world.

The importance of fuel is undeniable; most military tactics within a system are centered on this fact. Any ship arriving may well have empty tanks, which puts it at a disadvantage for both maneuver and combat until it is refuelled. The first priority for any ship is almost always refuelling.

AZHANTI FUELLING PROCEDURES

The fuelling procedure for the *Lightning* class ships is well thought out, and includes several options.

Administrative Refuelling: This procedure is used to replenish fuel supplies in a normal system with a gas giant easily accessible and with no enemy threat present.

Nestled along the ventral groove of the ship are four 400-ton fuel shuttles. Each can carry 350 tons of fuel; and is streamlined for refuelling dips into the gas giant. The four shuttles, working together, can skim 1400 tons in three hours, or completely refuel the ship in 27 trips (slightly over three days). Normally, one or more shuttles are diverted to administrative uses, complete with passenger seats installed, and the refuelling (using only three shuttles) takes closer to a week.

If the fuel source is an ocean, the shuttles must penetrate the atmosphere, land in the ocean, and fill their tanks. The procedure takes twice as long (six hours per load; about seven days for complete refuelling).

Finally, the fuel source may be an ice cap. The shuttles take nine to ten hours per load, and the complete refuelling can take upwards of ten days.

Tactical Refuelling: Technically, the regulations advise jumping into a system with a fuel reserve in the tanks, hopefully enough for maneuver and a safe jump outsystem if discretion calls. However, refuelling under tactical conditions may be called for.

Much as in administrative refuelling, the ship's fuel shuttles skim gas from the gas giant, but do so under cover of the vessel's many fighters, and protected by the ship's big guns. If the enemy is far enough away and can be held at bay, this procedure has little risk. The refuelling takes upward of three days, however, and many times, the commander will be content with grabbing just enough fuel to jump outsystem (fifteen hours— five trips for each of four shuttles, at three hours per trip, can give enough fuel for jump-1 outsystem).

Emergency Refuelling: Utter dependence on the fuel shuttles can make the *Lightning* class cruisers very vulnerable ships. Loss of even one shuttle can materially increase the time necessary for refuelling. Loss of all four could make the ship impossible to maneuver and refuel.

In emergencies, the ship can utilize its limited streamlining to allow a direct fuel skim of a gas giant. This procedure will not work with an ocean or ice cap, but it does give the ship the ability to refuel in most star systems. The ship dives into the gas giant's atmosphere and opens its fuel scoops, loading up with hydrogen directly from the atmosphere. There are three dangers to this procedure; all are called for by the very design of the ship, by the costs of the design, and the realities of structural integrity.

1. *Loss of the Fuel Shuttles.* If the shuttles remain with the ship, there is the very real danger that they will be torn from their mountings by atmospheric turbulence. If they are left behind, they may be picked off by enemy action.

In any emergency refuelling operation, throw 10+ for each shuttle to be lost; DM - ship's boat expertise of the pilot aboard the shuttle.

2. *Loss of Fuel Deck Integrity.* The severe buffeting may cause one or more fuel decks to leak or buckle, resulting in a failure to retain fuel. This is an accepted part of the total ship design.

Throw one die for the number of severe buffeting incidents which occur during the refuelling run; DM - pilot expertise of the controlling pilot. For each buffeting, throw one die for the number of decks to buckle or leak. The total of all incidents indicates the number of decks which are affected.

Determine which decks are affected by the incidents. there are 43 fuel decks (condiser them numbered 1 to 43). Roll 1 die minus 1 to determine the tens digit; reroll if the result is a six. Roll one die minus 1 to determine the ones digit; reroll if the result is a six. Then roll one die; if the result is even, add five to the ones digit. Finally, if the result is 00, or is greater than 43, reroll. This system distributes the effects of incidents randomly over the several fuel decks.

If the deck number occurs once, it has leaked, resulting in the loss of one die times 10 tons. If the deck number occurs twice, it has buckled, losing 150 tons. If a deck number occurs three or more times, it has failed, losing 400 tons.

While there is a potential loss of 9600 tons of fuel, the actual loss is statistically much less, and is considered to be acceptable by the naval authorities. The problem is that if the ship is forced to perform this maneuver several times, it could lose enough capacity to curtail its activities.

Fuel decks can be repaired, given time and effort. A leaky deck can be repaired in four days time by a crew of ten. A buckled deck can be repaired at a class B or A starport with a crew of twenty and a week's work. A failed deck requires at least a month of work at a class A starport. Of course, starport repair facilities are able to work on more than one deck at one time.

3. *Internal Damage to Drives.* The ship can suffer internal damage to its maneuver drives due to buffeting. This can result in failure at a critical instant. The initial throw for maneuver drive failure is 14+. Each incident of buffeting gives a DM of -1. Thus, the first throw is 14+, the second is 13+, the third is 12+, etc. A DM of pilot expertise is allowed. If maneuver drive failure does occur, then a saving throw of 10+ (DM + chief engineer expertise is allowed) may repair the drives in time to save the ship. In all cases, however, a throw of exactly 2 is catastrophic failure, and the ship loses maneuver power and crashes on the gas giant surface.