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ARMADA CODEX™



ATLAS

DROPSHIP

Ryan Wolfe

01:13

ATLAS

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Seizing upon a singular opportunity to defeat our ancient foes, a secret signal called all loyal Terran starships and crew to the very heart of enemy power at a precisely coordinated moment. Here, in the Zero Hour Engagement, the enemy was broken and humanity won a reprieve from extinction. The names of those brave citizens who answered the call are immortalized across countless annals and monuments. It is the purpose of this codex to enumerate the valiant starships of the zero hour armada so that they too may never be forgotten.

0-hr: Atlas

by Ryan Wolfe of *"zero hour" art & technology*
0-hr.com

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Overview

The exotic, high-tech planets of the distant Tōhoku Colonies lie far from the ConFederation border worlds that bore the brunt of the conflict with the Umbral Empire. As such, the rich culture - transplanted from the Japanese states of the dying earth - has flourished in relative peace. Where reliability and efficiency are the driving goals of most ConFed designs, Tōhoku craft often prioritize style and elegance. In the neon cities of Kushiro and Yoto Xi, cyber-samurai in powered armor duel with plasma swords while ace pilots drive towering combat mechs into battle. When the Shogunate was called upon to join the human cause against alien invaders, a method was needed to carry these exotic but effective troops into battle at the distant front.

Project Atlas was one part of this endeavor - a joint effort between Terran and Tōhokan contractors to build a transport/dropship for soldiers and mechs. The *Meridian* variant was the primary focus of the contract - a spherical "tail lander" designed to haul a lance of four massive combat mechs, plus the personnel and supplies needed to maintain a forward base in support of the squad. The shipyards, and budget, were under control of ConFederation engineers and so the result is practical and effective.

To recoup costs and expand market share, two additional designs were spun off from Meridian and developed for the civilian sector. The first was the *Europa*-class (or "Atlas: Europa variant") freighter, which essentially emptied out the mech bay for cargo space and used the excess overhead to double the height of the pre-existing munitions deck for even more cargo.

The second variant - designated *Pangea* - filled the lower section of the spherical craft with cabins, suites, and dormitories for paying passengers. In both cases, the upper dome section of the ship was left as is since it contained the command, crew, and support sections needed for every variant. This upper section was also designed to be detachable, but not necessarily interchangeable between variants.

Though built with the civilian market in mind, the Europa variant is also used extensively by the military which often needs to transport large amounts of cargo. This is why the default Europa configuration retains the heavy weapons of the Meridian dropship - making it very well armed for a cargo mover. The Pangea loses the heavy guns so that additional power can be used for life support and other systems that would otherwise be taxed by the increased passenger load. While some Pangea are employed as troop transports, they are not nearly as common as the freight haulers.

This document describes all three variants (in alphabetical order) plus the small support craft found on each: the Ryukin-class escape pods, Hagetaka-class combat mechs, and Exo-frame cargo movers.



Components

Though designed in concert with the artisan shipwrights of Tōhoku, Atlas strongly resembles older ConFederation designs. Built to haul the flashy and almost-impractical combat mechs of Yoto Xi, the ship itself is little more than a simple sphere with four study legs that double as engine housings. The military Meridian variant in particular is completely lacking in elegance or style. These ships are even "tail landers", harkening back to the early days of interstellar travel before artificial gravity became commonplace. Though they can use thrust to simulate gravity (perhaps to conserve energy) and "down" is always towards the back of the ship, most of these craft do have internal grav plating like that found in other modern ships.

The building-like layout could make internal references awkward so some conventions have been arbitrarily developed. When an Atlas is sitting on the tarmac the pilot's chair, by default, is said to be facing "forward" towards the large view screen at the "front" of the bridge with the circular window canopy overhead. This means that the escape pods on the bridge are to port and starboard of the pilot, and the lift is aft of his seat. These designations are carried over throughout the ship. The airlock on the Crew Deck is at the aft end of the ship; mech bay one is at the forward side; and so forth. As would be expected, the bridge is said to be at the top of the ship and the hold at the bottom.

The lower section notwithstanding, four to seven people form a standard crew shift for an Atlas. The dome section provides beds and bunks for eighteen personnel: two suites, four cabins, and a pair of six-person barracks. As would be expected the suites and cabins are for senior personnel while the barracks are for lower-ranked crew or marines.

The Dome

The upper dome section of any Atlas variant can detach from the lower hull. The dome is a fully operational starship on its own, while the lower hull section is rather limited in functionality when left behind. A dome can reattach to any lower section of the same type.

Technically Europa and Meridian domes are interchangeable though there are some issues with weight and power distribution due to the inconsistent armor and shielding systems between the two. This leads to instability, especially in atmosphere, and can easily overload or under power key systems when under stress. Pangea domes are *only* usable with passenger variants due to the lift tube configuration and power routing requirements.

A lower Atlas section can only move or navigate in a limited manner by using the engineering consoles attached to each

engine. It can rise off the ground, roughly hover and rotate, or initiate a hard burn into space, but precise overland navigation or guiding the ship section into a stable orbit is extremely difficult. Other functionality, such as sensors, communications, weapons, and shielding, are still functional though at reduced capacity. This still allows the lower section to operate as a forward base for the mechs, a supply depot for cargo, or a residence for passengers awaiting transport.

Propulsion

The four engines on an Atlas are built into structures that also serve as landing legs when the ship sets down. They have some ability to compress and tilt at the bottom ends to adjust for uneven landing areas. Each is a fairly self-contained particle induction engine divided into two sections. The upper section, housed in the dome, connects to the primary reactors. They feed power to the lower sections which enrich and accelerate the virtual particle stream to amplify the output.

Each of the four engine legs also houses a sub reactor for use when the dome is detached. The output of these is an order of magnitude less than the full system and so the resulting propulsion is greatly reduced. Separation of the lower Atlas section removes about 40% of the thrust available to the dome (it still generates tremendous power but loses the boost granted by the legs). But since separation also removes roughly 70% of the ship's mass there is actually a substantial increase in performance for the top section on its own.

Whatever its configuration, an Atlas is not going to win any awards for speed or maneuverability. It is designed purely to move things from one place to another in a very direct manner. Though aerodynamic enough, its atmospheric maneuvering is often limited to an elevator-like approach, landing, and take off. Even in space, the ship favors straight line motion - orienting the nose of the ship towards the destination and then firing up the main engines for the shortest possible flight path (often with a flip at the midpoint and deceleration burn just to maximize efficiency even if not strictly necessary given today's technology).

Weapons

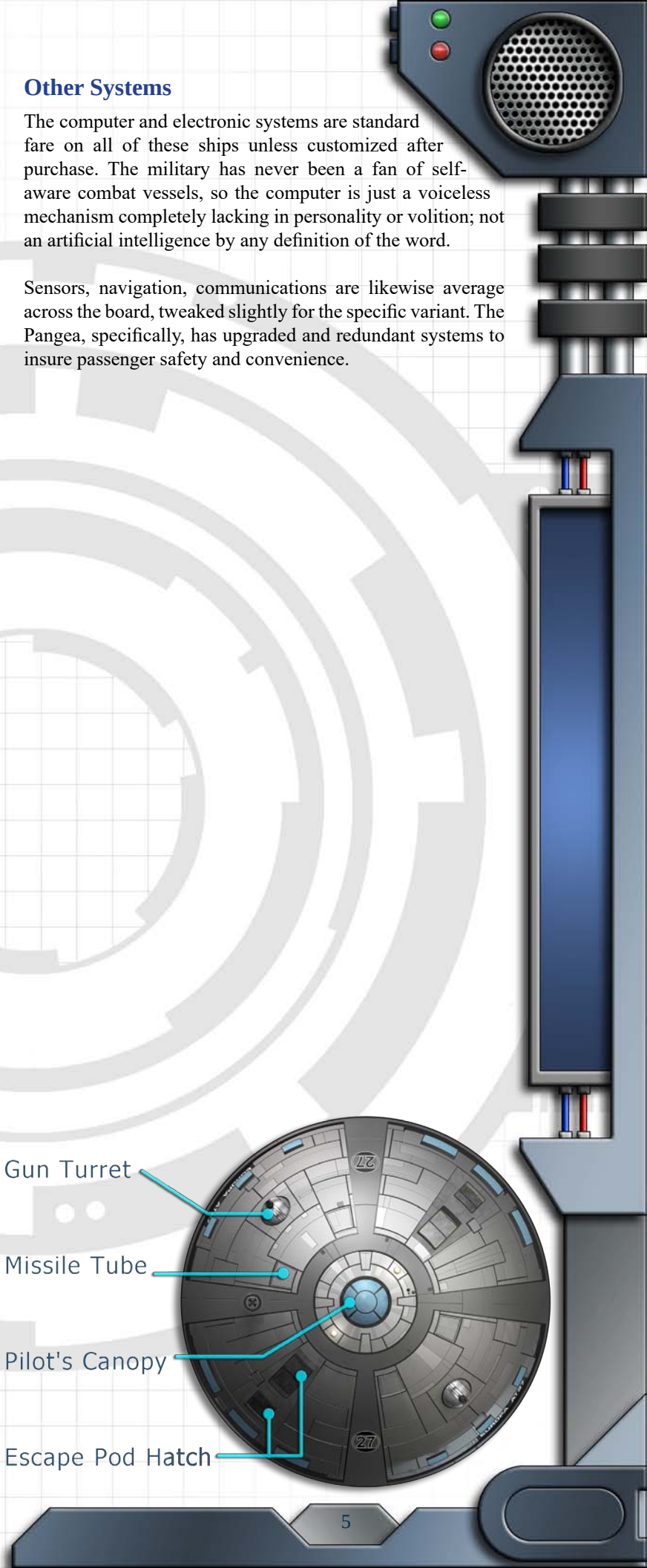
An Atlas dome section has built-in missile or torpedo tubes and a pair of large,turret-mounted gun emplacements. The missile system is in two parts where each part stores a row of five missiles that can launch out of a hatch at either end of the row. This allows some selectability in ordnance if a variety is carried. Meridians will tend towards higher yield while a Pangea may favor a mix of decoys and less lethal (and less restricted) weapons.

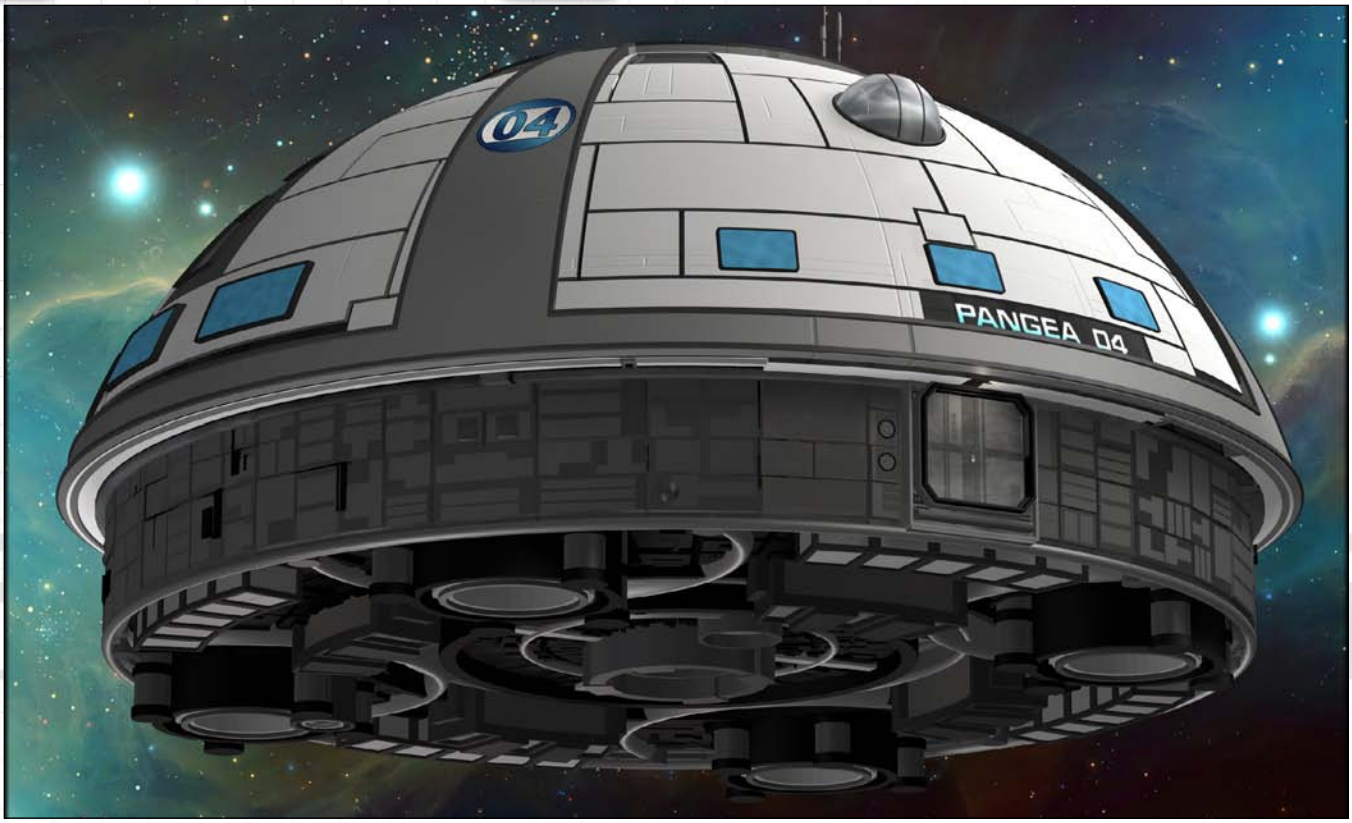
Though all variants retain the missile tubes, on the Pangea-class the gun domes are almost always replaced with additional sensor, communications, and navigation pods. The lower section of any given ship has another pair of turret emplacements (again, either guns for Europa and Meridian, or electronic gear for Pangea). These large guns are heavy lasers powered from the main reactors and so can hinder propulsion if used for an extended period of time - but they will never run out of ammunition.

Other Systems

The computer and electronic systems are standard fare on all of these ships unless customized after purchase. The military has never been a fan of self-aware combat vessels, so the computer is just a voiceless mechanism completely lacking in personality or volition; not an artificial intelligence by any definition of the word.

Sensors, navigation, communications are likewise average across the board, tweaked slightly for the specific variant. The Pangea, specifically, has upgraded and redundant systems to insure passenger safety and convenience.





Atlas Dome

The upper section of every Atlas variant is the identical on the inside, though the hull plating, armor, and livery on the outside varies greatly. Because the interior layout is the same, the dome section is described once here rather than being repeated in each of the variant sections. It is also possible that a detached dome could be encountered on its own, in which case this section of text is all that would be needed.

Atlas Dome: Interior Areas

The dome section consists of three decks. The uppermost is just the bridge, with the surrounding area packed with sensors, navigation, and missile systems. Below this is the Support Deck which contains critical services such as engineering, med bay, and the captain's office. the lowest (and largest) deck is called the Crew Deck because it contains the majority of the crew quarters plus off duty areas such as the lounge and dining hall.

Bridge Deck

Bridge

This entire level consists of a single, circular room with a diameter of 30 feet and a high, domed ceiling canopy made of transparent panels. Access to the bridge is via the personnel lift, though there is also a ladder that leads down to the Support Deck near med bay. Note that this is a separate ladder than the one that runs from the bottom to the top of the ship (with hatches on either end).

On either side of the bridge are hatches leading to escape pods. These are Ryukin-class pods and are described in more detail at the end of this document. The curved sections of wall between the escape hatches are packed with control surfaces and displays, including a large view screen that can simulate a forward view outside of the ship - though this view is, in reality, above the bridge.

The pilot's seat in on a raised dais in the center of the room. The seat, controls, and dais itself can rise into the air (supported by pillars and hydraulics on either side) and rotate so that the pilot can see ahead of the ship out of the large circular window in the ceiling above. This has the pilot lying on his back relative the rest of the bridge but advanced Atlas models will include an isolated grav plate in the dais to keep 'down' in a more comfortable direction for the pilot. The odd orientation is needed for visual piloting given that the main engines are at the bottom (rather than back) of the ship.

Aside from the pilot's station, there are four worksations around the perimeter of the room. These have reconfigurable control surfaces and are set up to handle the usual duties of a copilot, navigator, communications officer, and so forth. Because the weapon systems on an Atlas are automated (the 'turrets' hold machinery, not gunners), there are also weapon stations here in case manual control is desired.

Support Deck

Central Hub

Aside from the bridge, every deck on an Atlas has a large circular cargo lift running vertically through its central axis. This lift consists of an anti grav disc about ten feet across contained within a rigid composite tube. At each level there are large doors that slide open on either side of the tube for easy access. Controls for the lift are on small raised consoles attached to the disc itself. The tube can iris shut at each level, though fail safes insure that there's no chance of the iris harming someone, or the platform rising dangerously close to a closed barrier. The lowest section of the cargo lift tube, which opens at ground level if the cylinder has been lowered, can cycle atmosphere to function as an air lock when needed.

Though commonly referred to as an anti gravity disc, most lifts use electromagnetism both to center the disc within the tube and to move it vertically. Superconductive conduits in the tube walls, combined with the selectively magnetic composites used in the disc platform, allow for precise control. The system is also very safe since power levels put a hard cap on disc speed and buoyancy fades only slowly in the event of power loss (plus there are locks at each level that can secure the disc, and these automatically engage if the system loses power).

On the Support Deck, the cargo lift tube is at the center of a circular room. This room also contains the personnel lift tube, which is basically a half-sized cargo lift (and both are used interchangeably). In addition to the lift tubes a ladder leads up, through a secured hatch, to the bridge. Clearly labeled doors lead into every other room on this level and a window is set into the wall of the med bay, providing a view inside.

Officer's Quarters

There are a pair of suites on this deck, both furnished with a single large bed. The bed is built into a frame that extends as a work desk at one end. The divider between the desk and the bed has a built in video screen on the bed side (so it can be viewed while lying down). The headboard includes reading lights, a comm panel, and tiny cabinets for personal effects. There are additional storage drawers built into the frame underneath the mattress.

Additional furnishing includes an office chair, wall-mounted video screen, cabinet, and locker. There is also a medium-sized closet and a private restroom which also serves as a shower. Being situated deep within the hull, neither suite has windows, though the wall screen can display an exterior view if desired.

The suite adjacent to the office is for the ship's captain. The other is used either by the executive officer or another important person.

Office & Conference Room

Between the captain's suite and engineering is a combination office and conference room. It contains a desk for the captain or other administrator to use, plus a round table large enough to seat six comfortably. The usual office gear (cabinet, video screens, hardcopy printer, and coffee supply) rounds out the accoutrements.

Slightly out of place, at least on the civilian versions of this ship, is the escape pod hatch set into the wall between the desk and conference table. Like all such hatches on board, it opens to the back side of a Ryukin-class escape pod, which seats six and launches horizontally out the side of Atlas.

Engineering
The aft quadrant of the Support Deck is occupied by the engineering department. Thought the engines themselves are located elsewhere, and largely self-contained, the primary reactors and key control systems are located in this room.

Almost all available wall space is taken up with consoles, displays, or access panels. The floor is at three slightly different levels, highest near the entrance doors; then a step down to the main floor; and another half step down to the grating around the reactors and in the center of the room.

The straight lengths of wall on the port and starboard sides of the chamber hold the main engineering consoles. The former is dedicated to power systems and the latter to life support, weapons, propulsion, and pretty much everything else other than power. The stretch of curved wall between the reactors is the main interface for the ship's computer and electronics.

Medical Bay
This room contains four advanced medical beds; each suitable for examinations, routine surgery, and recovery. A trio of displays at the head of each bed provide constant updates on patient health and various equipment is tucked away in the solid column upon which the bed stands.

Elsewhere in the room are cabinets filled with medical supplies. There is also a sink with addition emergency gear underneath. There isn't any privacy in the med bay, which can be disconcerting during surgery, but the entire area is sterile and it was decided that the increased capacity was worth the potential inconvenience.

Laundry
Unglamorous but necessary, the ship's laundry facility is sandwiched between the med bay and the officer's quarters. The often hot and noisy room holds a pair of washing machines plus a table, cabinet, and shelves for storing linens and supplies. A pair of canvas laundry carts are also stored here when not in use.

The ladder tube which runs the vertical length of the ship (including the lower section if there is one) can be accessed at the back of the room. From here it leads down to the Crew Deck or up to a pressure hatch near the top of the hull. This hatch is equipped with a universal collar and extendible tube to allow for docking in the void. Note that the ladder and tube does not access the bridge. Because of the curvature of the spheroid hull, the ladder exits the hull roughly level with the bridge instead.

Lower Deck

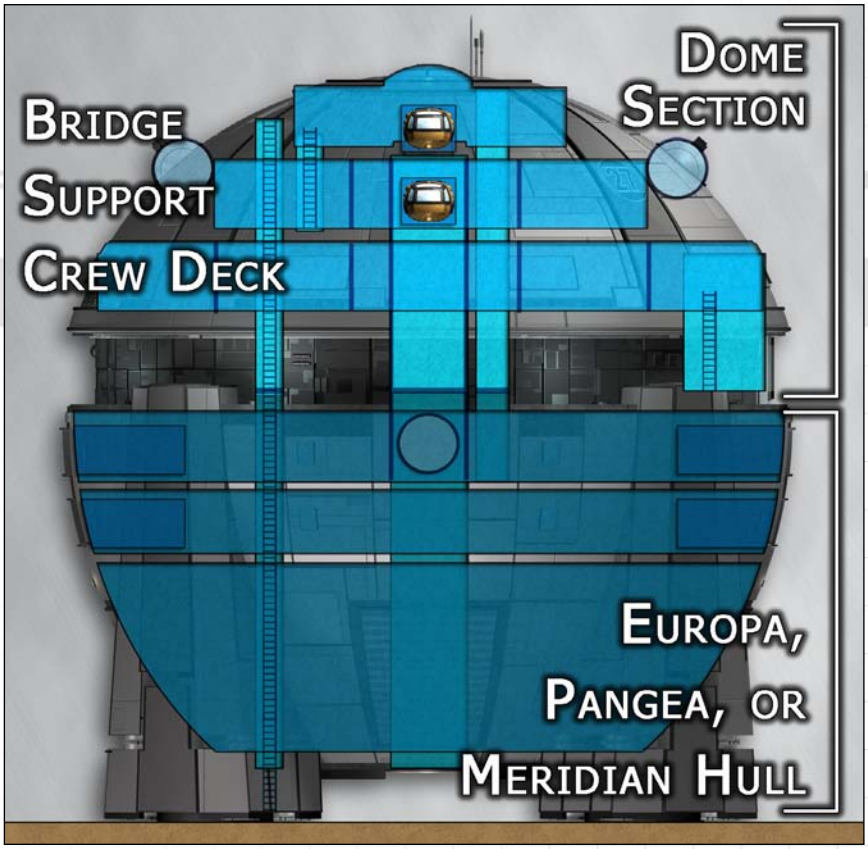
Central Hub
The center of the deck has the large cargo lift running through it, along with the smaller personnel left immediately aft (with the two differing only in size). Along the forward wall are a couple of small closet filled with cleaning and other general supplies. A public restroom is to either side of these.

To port are large, translucent doors leading into the lounge. To starboard a similar set of doors opens into the dining hall. Both are clearly labeled, thought the rooms beyond can be dimly seen through the semi-transparent material as well.

Crew Cabins
There are four single cabins on this deck, typically given to ranking crew members. Each holds a bed, with a frame that includes a small desk at the foot, plus a video screen facing the bed and a nook with reading light and comm unit built into the headboard. These are smaller versions of what is found in the suites on the Support Deck.

Unlike the suites, these cabins do not have private restrooms, though they do have dedicated closet space. All feature a wall mounted video unit and some additional furniture: either a couch or a small round table and pair of chairs.

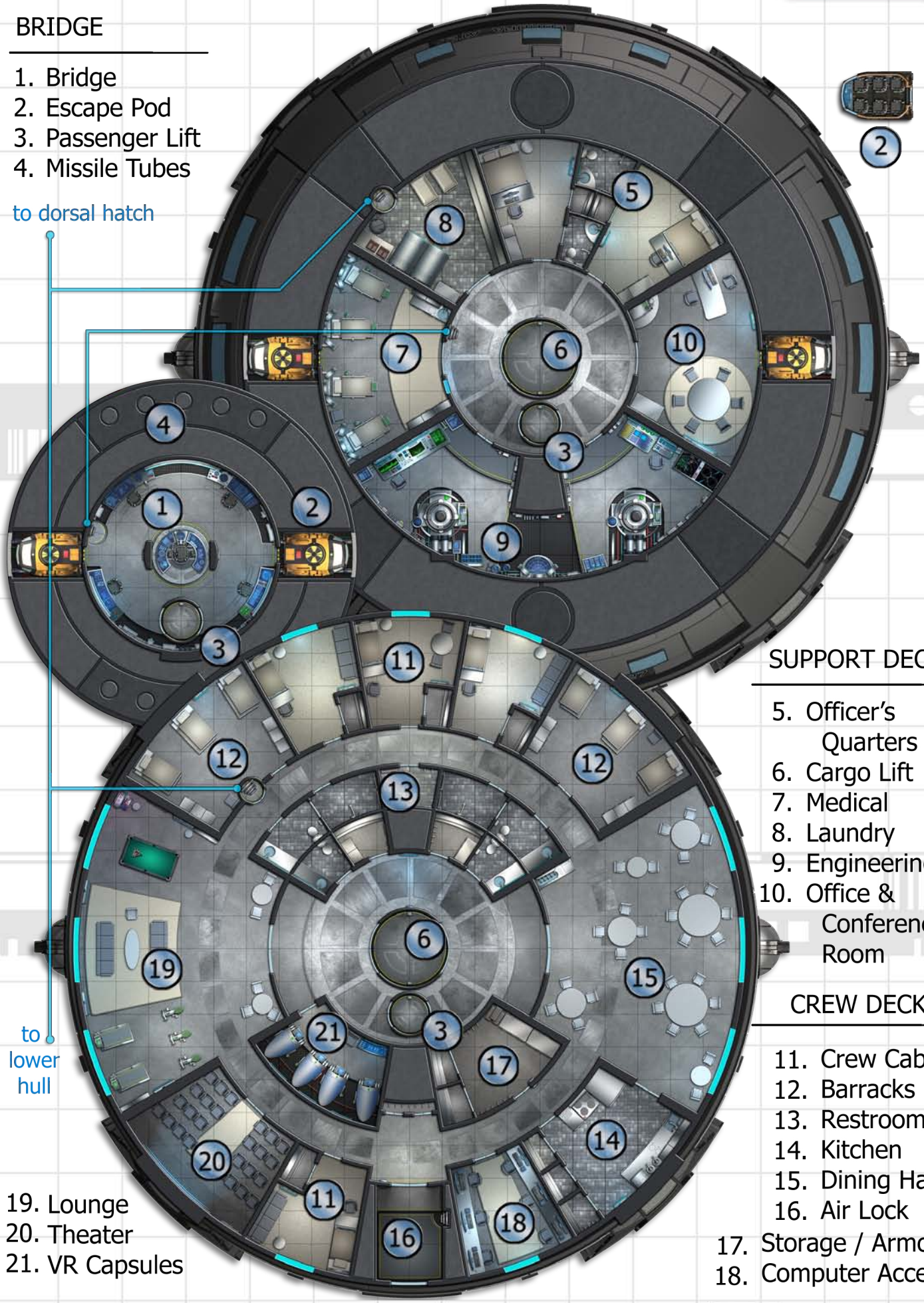
The long curved hallway outside of the three forward cabins provides access to a pair of public restroom and trio of showers. These, plus the two additional restrooms in the hub, are for the use of the residents of the cabins and barracks on this deck. Note that the showers are dedicated rooms while the restrooms have sinks and toilets but no shower units (unlike the suites previously mentioned).



BRIDGE

1. Bridge
2. Escape Pod
3. Passenger Lift
4. Missile Tubes

to dorsal hatch



to lower hull

19. Lounge
20. Theater
21. VR Capsules

SUPPORT DECK

5. Officer's Quarters
6. Cargo Lift
7. Medical
8. Laundry
9. Engineering
10. Office & Conference Room

CREW DECK

11. Crew Cabin
12. Barracks
13. Restrooms
14. Kitchen
15. Dining Hall
16. Air Lock
17. Storage / Armory
18. Computer Access

Barracks
There are two rooms designated as barracks on the Crew Deck. Each has half a dozen bunks and lockers. These beds can be dedicated to crew, marines, or visitors as needed. Though both barracks are right up against the outside hull they lack windows because the upper engine housings run down the sphere exterior to these areas.

The ladder outside of the port barracks leads to the Support Deck above and down to the upper-most deck of whatever lower section is attached. If the dome is on its own, then the lower hatch opens underneath the craft, hard against the ground (and so unusable when planet side).

Dining Hall
The starboard quadrant of the Crew Deck is a large dining facility with round tables scattered about and high windows set into the curved exterior wall. The facility can comfortably seat twenty eight. There is a self-service beverage station in one corner. The kitchen, from which meals are carried by personnel or service bots, lies just aft.

Kitchen
The full service kitchen has all of the major appliances needed to prepare (and clean up after) fresh, dehydrated, or prepackaged meals. For the most part these are classically manual devices: like a stove and sink rather than protein synthesizer and tray recycler. There are three separate food storage closets against the wall (for room temperature, cold, and frozen items). If the dome is on an extended solo operation, then additional supplies are kept across the hall; otherwise they are stored in the hold far below.

Storage / Armory
Across the hallway from the kitchen is the only real storage area in the upper decks. On a military ship this will be an armory. On others it can be secure storage, general supplies, or just hold additional goods for the kitchen. The room contains a couple of metal cabinets and a pair of closets. There are racks on the wall to hold anything from weapons and armor to pots and pans.

Computer Access
On a Meridian variant, the computers in this room support a half dozen electronic warfare, surveillance, and command-and-control personnel. It could also serve as small command center for the ship if the officer in charge or ground operations prefers to work from here rather than the bridge.

On a civilian craft, these terminals provide more mundane access to the ship's computer for entertainment, education, and communication purposes. Typically passengers or off duty crew will reserve specific time slots during which they can use a machine. There are, of course, numerous safeguards in place to prevent access to critical ship's systems from this location without proper authorization.

Air Lock
Because the actual exit is a level lower than this deck (due to the engines and equipment on the bottom of the dome), the back two thirds of this room is a lift platform that can descend about ten feet. A ladder is set into the wall as an alternative.

The external pressure doors open at ground level if the Atlas dome is separated and has landed. This is the main means of access for a lone dome because the central cargo lift column cannot descend below the dome - that's a feature unique to the cargo lifts on the Europa, Pangea, and Meridian sections.

If there is a Europa, Pangea, or Meridian lower section attached to the dome (as it most often the case), then this exit is far above the ground and only useful at facilities equipped to deal with it - or in space.

Across the hallway from the airlock is a closet stuffed with vacc suits and other EVA gear.

Theater / Presentation Room
Twenty six seats face a wall-sized video screen in this room. The floor slops downwards from back to front to help with the view. The front of the chamber is a step up from the floor and a semicircular podium can rise up to provide a speaker with a place from which to orate. The room can serve for mission briefings, informative talks, or simple entertainment.

VR Capsules
A quartet of advanced virtual reality cockpits fill half of this chamber. A control panel for a remote operator, and hooks for flightsuits or extraneous gear, line the other wall. The interior of the pods are set up like a mech or fighter cockpit with the 'windows' replaced by 3D screens. Acceleration and motion is simulated via minor hydraulics and grav tech in the skin of the capsule.

The purpose of this set up is to allow military personnel to safely train in a controlled environment. Various, less realistic but less demanding, programs can be run for entertainment purposes as well - allowing the setup to simulate a wide variety of craft, environments, and scenarios. On a Pangea-class passenger transport, half hour sessions are booked in advance to insure everyone has a chance to experience (and pay for) this popular form of entertainment.

Lounge
The port quadrant of the Crew Deck, opposite the Dining Hall, is a multi-purpose lounge. The central carpeted area is furnished with a pair of large sofas to provide a comfortable place to sit and talk, watch a video, or just enjoy the view out of the expansive floor-to-ceiling windows.

On one side of the sitting area is a billiards table, along with a video game console in the corner. The opposite side of the lounge is an exercise area featuring a pair of treadmills and a trio of exercise bikes. Narrow cabinets against the wall hold additional exercise and entertainment gear.

ATLAS - Dome

Classification	ship subsection
Origin	Tōhoku Colonies
Registration	military/civilian
Dimensions	105 x 105 x 55 ft. (LWH)

Register Tonnage	2846
Cargo Capacity	2 register tons
Standard Crew	6
Passenger Capacity	12

Notes

• This is the top section of an Atlas when it is detached from the Europa, Pangea, or Meridian lower section.

Vehicles carried:
• 4 Ryukin-class escape pods

Technology Level	■■□□□
Relative Cost	■■□□□
F.T.L. System	■■■□□
Acceleration & Maximum Speed	■■■■□
Maneuverability	■■■□□
Atmospheric Performance	■■■□□

Default Armament

• 2 Plasma Cannons
• Four Missile Tubes (10 missiles total)

Common Options

• Replace some missiles with nuclear torpedoes or decoys
•Pangea tops lose the Plasma Cannons

Durability	■■■□□
Offensive Capability	■■□□□
Defensive Capability	■■□□□
Computer System	■■□□□
Sensors & Communications	■■■□□



Europa

The primary purpose of the Atlas project was to produce a military dropship for the Tōhoku Shogunate. Early on it was decided that a cargo version would also be developed. It was assumed that this would also be a military vessel, and that minimal changes would result in the fastest development time - so the resulting Europa-class is very well armed for a cargo ship. When offered to the civilian market, the weapon package was left intact and has proven popular with captains in the rougher parts of space.

This following part of this document details the Europa lower section. The ship above these levels (that is the Bridge, Support, and Crew Decks) is as previously described. The Atlas dome is designed for a variety of ship types and, frankly, is rather over equipped for a simple freight hauler. The size of the dining hall, spacious rec room, VR pods, theater, and even med bay are more than most cargo movers can boast. This makes the Europa a popular choice for workers. Typically, it is the crew with the most seniority that can pick their jobs and so end up here - meaning that your average (civilian) Europa crew tends to be more experienced than most.

Europa: Interior Areas

This is the Atlas freighter variant and consists of two decks in the lower section: the massive lower Hold and an upper Cargo Deck. All Atlas bay/hold exits are capable of supporting atmospheric shielding, though it is expensive (both in terms of money and energy consumption) and so is optional during the final stages of construction and customization.

Cargo Deck

Though described here as part of the Europa, it must be noted that the Meridian layout also includes a Cargo Deck identical to this, though without the high ceilings. The exterior hull of both look as if there are launch hatches for escape pods on either side of the cargo level. Only one of these hatches is real. The others are just decorative - included so that the production processes match the Pangea (which *does* have a full complement of pods) and to provide some misdirection in the event that the pod needs to escape under hostile conditions. Likewise the pair of windows at the upper fore and aft ends of the Cargo Deck are purely decorative, covering connection points for the liquid storage tanks beyond.

Cargo Area

Most of this deck is a single large open space for cargo storage. The central area is circular with a radius of 35 feet and the cargo lift tube at the center. The quadrants directly to port and starboard extend the circle out another 15 feet for even more space.

Europa vs Meridian

The same Cargo Deck layout is found on both a Europa freighter and Meridian dropship, but on the Europa the ceiling is at eighteen feet rather than the ten found on the mech

carrier. On the Europa the area above the bunk room, escape pod, and galley at the forward end is taken up by storage tanks and equipment. The same is true of the aft area above the exo-frame, vaults, and quartermaster's office. These tanks can be used to store atmosphere (so the hold can be depressurized without wasting all that air), or haul liquid cargo.

In a Meridian, the central circular area yields almost 300 registers tons* of cargo space with another 40 tons on either side. The higher ceiling in the Europa version of the Cargo Deck yields more than 550 tons of usable space in the middle with 70 tons on either side. Of course, utilization typically runs at 50% or less to allow room to move around within the space, keep floor hatches clear, and so forth.

*one register ton is 100 cubic feet of volume

The floor of the cargo bay has various physical tie downs, magnetic clamps, and adhesion plates (a special composite that, when charged, selectively bonds with common crate materials or a matching polymer infused into or painted onto modern shipping containers). The ceiling supports a pair of track mounted winch & claw units that can be controlled remotely to lift, move, and deposit cargo or munitions.

Access to this level is either via the ten foot circular lift tube in the center of the deck, or by an open semi-rectangular platform just aft of that. This open lift plate is about 10 feet wide and 15 feet long and is used for items too large to fit in the circular tube. When this lift is lowered, panels can slide in from either side to cover the hole as there is no railing. There is also a ladder tube in the northwest wall for personnel to move between decks of the cargo lifts are inconvenient.

Access Panels
In addition to where the open rectangular platform rises to this level there are four other 10x5 slightly curved floor panels (one at each cardinal direction) that can slide open. These provide access to the mechs at the catwalk level on a Meridian - used to service and reload the combat bots when they are in the bay below.

These large service hatches have smaller square sub-panels in them that open directly above the pilot's hatch in the mechs. When every second counts, a pilot can use this opening to jump directly from here to the mech - providing the fastest possible route from the nearby bunks to the cockpit.

In a Europa, the mech-servicing floor panels open above a dizzying drop to the hold floor far below and are only employed - for cargo transfer - when the ship is at zero G.

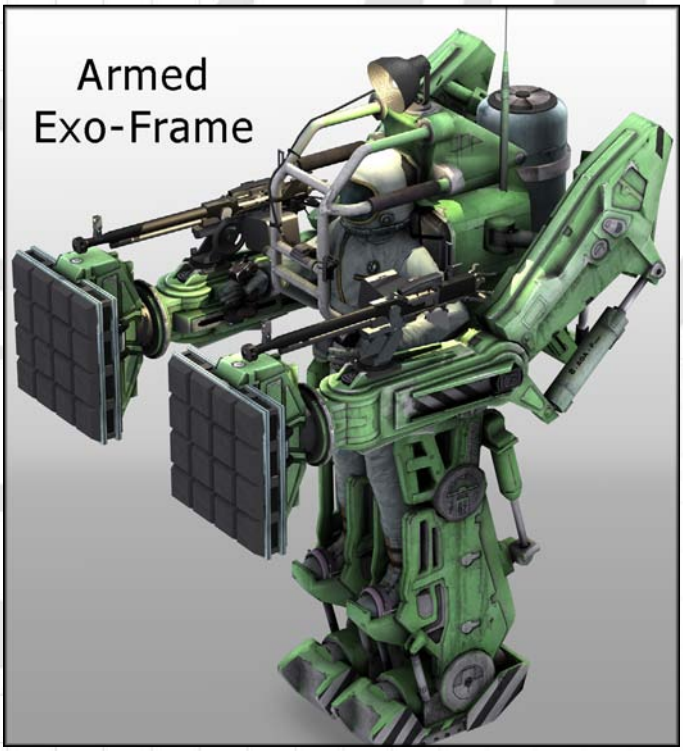
Engineering Stations
The four large engines take up much of the internal hull space in this deck and below. Against the northeast and southwest bulkheads that contain these engines are dedicated engineering consoles. Most controls here are redundant with those in the dome engineering section. If the dome is absent, these stations manage the limited power, propulsion, and weapon systems that remain.

Weapon Emplacements
At this level, directly to port and starboard, are spherical weapon emplacements. Though these are turrets in the sense that are designed to allow a full range of motion for the embedded gun, they are packed solid with machinery and have no room inside for a gunner. They are automated or targeted and fired remotely, either from the bridge or the nearby engineering stations.

Pilot Bunks
A room containing four bunks and four lockers is provided so that pilots can be close to their work. On a Meridian this means the mech pilots are just a few seconds away from their cockpits. On a Europa these would be the exo-frame drivers, which is far less time critical but still convenient.

If the lower Atlas section is left on its own, then these are the only living quarters left on board, and the galley nearby is the extent of the amenities available. Basically, the bottom half of a Europa or Meridian is little more than a self-powered (and well armed) warehouse or garage that can, if *really* needed, move awkwardly from place to place.

Exo-frame Berths
Between the office and vault is a garage designed to store and maintain four cargo-moving exo-frames. These are like "wearable forklifts" that allow a single operator to move heavy objects. The berths in this room contain the couplings and supporting equipment necessary for diagnostics and recharging. Due to their size, to move between decks the exo-frames use the open lift platform rather than the enclosed lift tube.



Escape pod
The entire lower section of a Europa or Meridian has but a single escape pod - which could be quite worrisome for those who work on these decks. It is, at least, a six person pod - and is conveniently located between the bunk room and galley.

It is common for the escape pod specifically berthed here to have most of its emergency gear removed and replaced with additional fuel cells and avionics. This makes the pod less suitable as an emergency vessel but makes it usable as a common shuttle craft. The reason this particular pod would be refit like this is because it is the only pod on board when the dome section is away. There aren't many evacuation-warranting emergencies that can befall a stationary warehouse but shuttle runs into town or routine patrols the surrounding environment are often called for.

Restroom
If a single escape pod in the lower section is worrisome, then the fact that there is but a single restroom could also be concerning to some. The theory is that only four crew are technically stationed here and so one pod and one toilet are sufficient. During loading and unloading procedures, however, there can easily be a dozen ship and ground personnel active on the Cargo Deck and in the Hold. The facility has a sink and built in shower as well as the toilet and small cabinet for supplies. All are designed to be waterproof since the whole room is effectively a shower stall.

Galley
Provided as a break room when the ship is intact, or as the sole means of sustenance when the bottom section is on its own, the galley is a minimal kitchen and dining area for three or four crew members. There is a refrigerator, microwave, and coffee maker, but little else in the way of food preparation. There is a sink for clean up, and storage for food and supplies in the cupboards and wall-mounted cabinets. Of course additional items can be stored anywhere in the cavernous cargo area just outside.

Quartermaster's Office
At the aft end of the deck, opposite the bunk room and galley, are another pair of rooms. The first of these is the quartermaster's office - set aside for the oversight and management of the cargo on board. It contains a desk with a computer terminal, plus a row of lockers for storing hard copy records and office supplies. A small windows and video unit break up the otherwise drab decor.

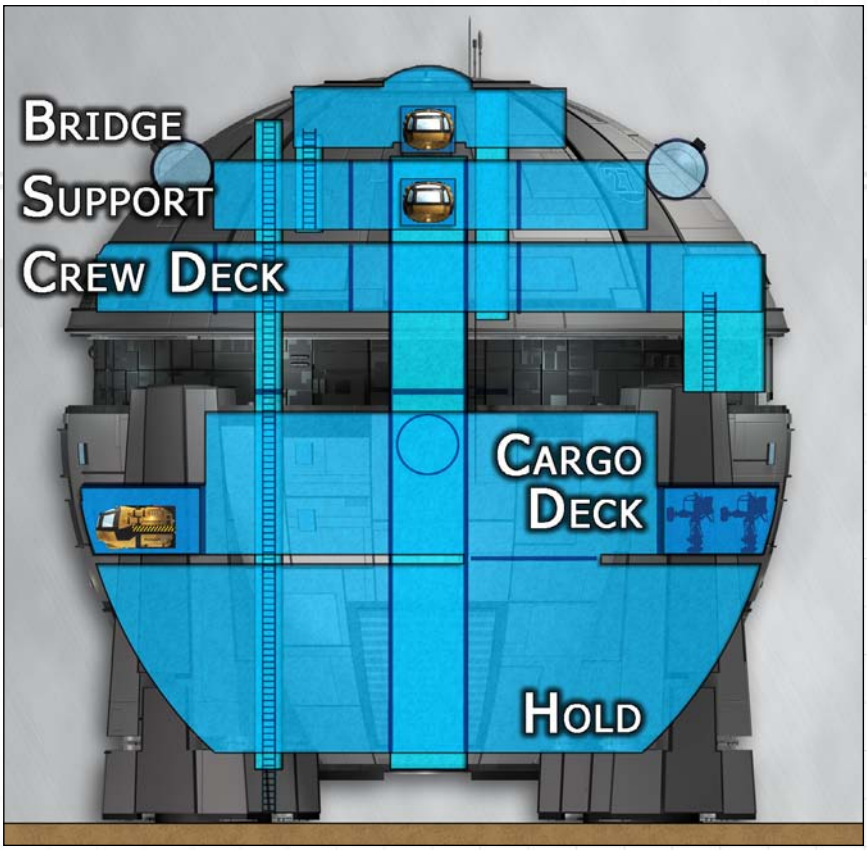
Secure Storage
The other room is a secure storage area or vault. It contains a sturdy cabinet and trio of closets - all of which can themselves be secured. The room is meant to hold valuable or sensitive items on a civilian ship, or additional weapons and armor on a military vessel. The door and window into this chamber are reinforced and equipped with sensors and alarms.

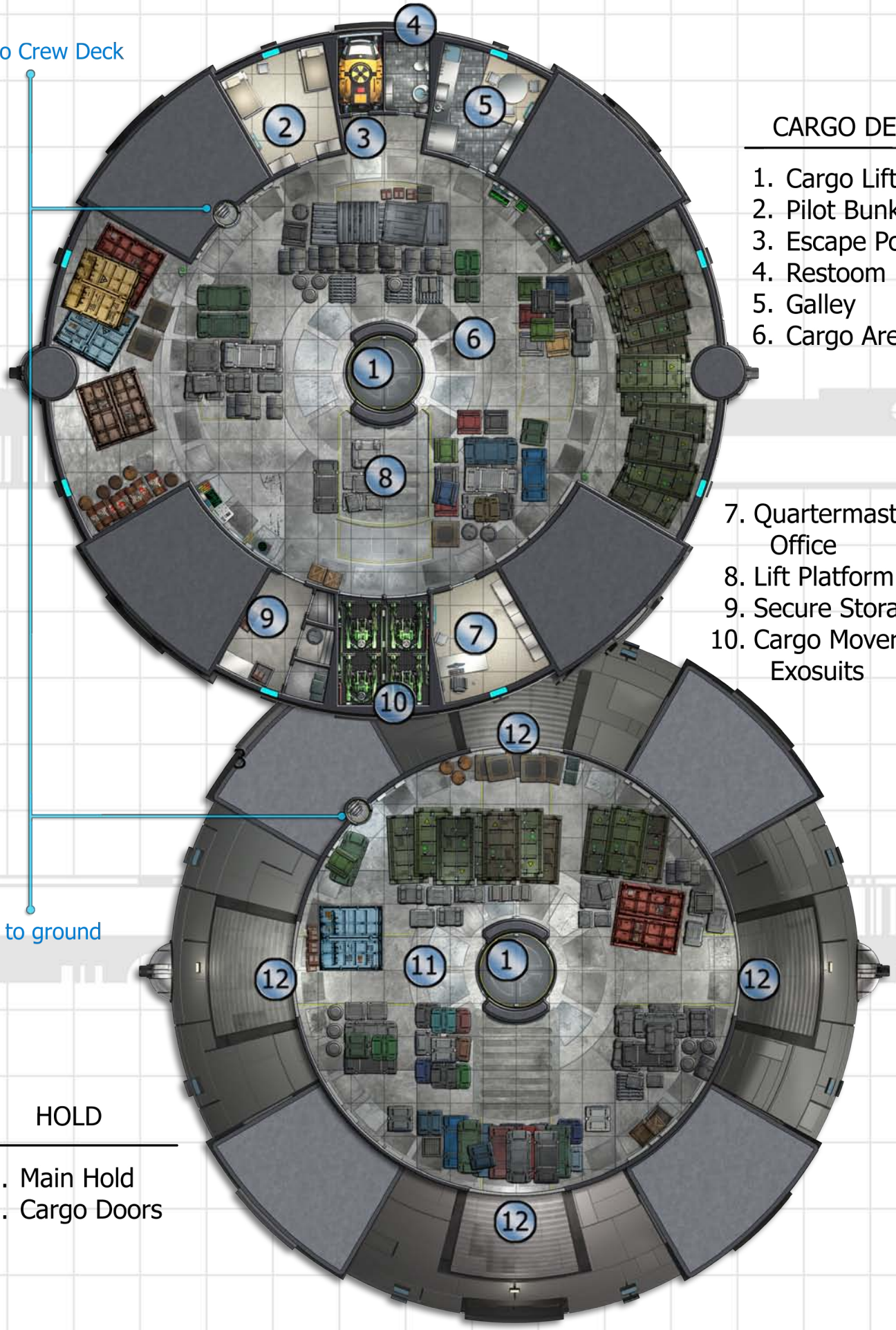
Hold

Main Hold
The entire lower half of a Europa section is a single open hold with the cargo lift tube running down through its center. The floor is circular and about 30 feet across. The ceiling is more than 20 feet overhead. The walls, thick with pipes and conduits, slope outward to follow the hull; which is the bottom section of a sphere at this point. The four engine housings take up a good deal of space as they are mostly interior to the ship at this level. Between the engine housings are large cargo doors that lower and become ramps to provide access to ground level. The cargo lift tube can also extend downwards to ground level, opening below the ship where there is about 8 feet of headroom beneath the hull.

The semi-rectangular open lift platform from the Cargo Deck can descend to floor level here so that area is clearly marked for safety and usually kept empty. The ladder tube is the other option for moving up to the Cargo Deck. It can also be used to climb down to ground level.

If packed to a height of 20 feet, this hold has a maximum capacity of 650 register tons - and that is without overflowing into the additional open space provided by the outward-curving hull beyond the flat floor space. Allowing minimal room for movement, plus some overhead for the usual winch and claw crate moving system, the hold is rated for 500 tons of cargo.





CARGO DECK

1. Cargo Lift
2. Pilot Bunks
3. Escape Pod
4. Restoom
5. Galley
6. Cargo Area
7. Quartermaster's Office
8. Lift Platform
9. Secure Storage
10. Cargo Mover Exosuits

HOLD

11. Main Hold
12. Cargo Doors


FRONT
SIDE
BOTTOM
TOP
EUROPA AT27
27
30 ft

ATLAS - EUROPA

Classification	freighter
Origin	Tōhoku Colonies
Registration	military/civilian
Dimensions	115 x 115 x 112 ft. (LWH)

Register Tonnage	9708
Cargo Capacity	1002 register tons
Standard Crew	6 to 18
Passenger Capacity	4 exo-frame drivers

Notes

- Dome section can detach.

Vehicles carried:

- 4 Exo-frame cargo movers
- 5 Ryukin-class escape pods

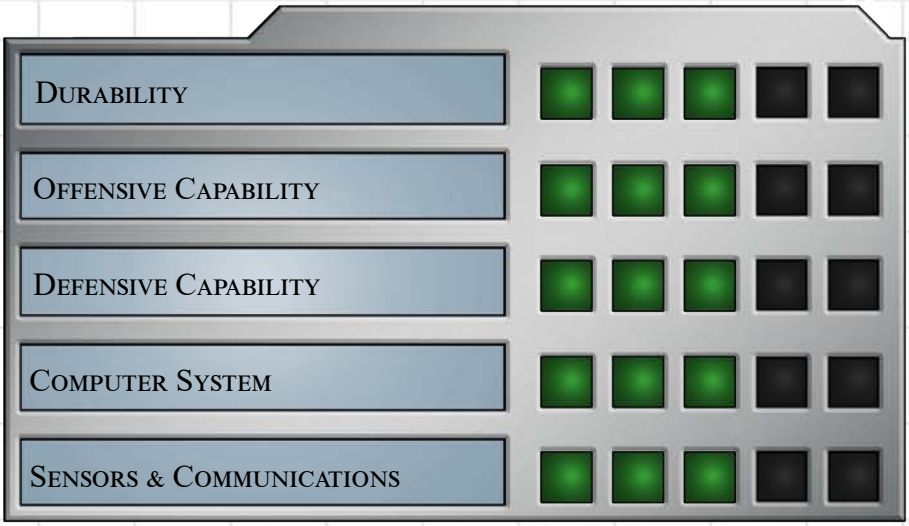


Default Armament

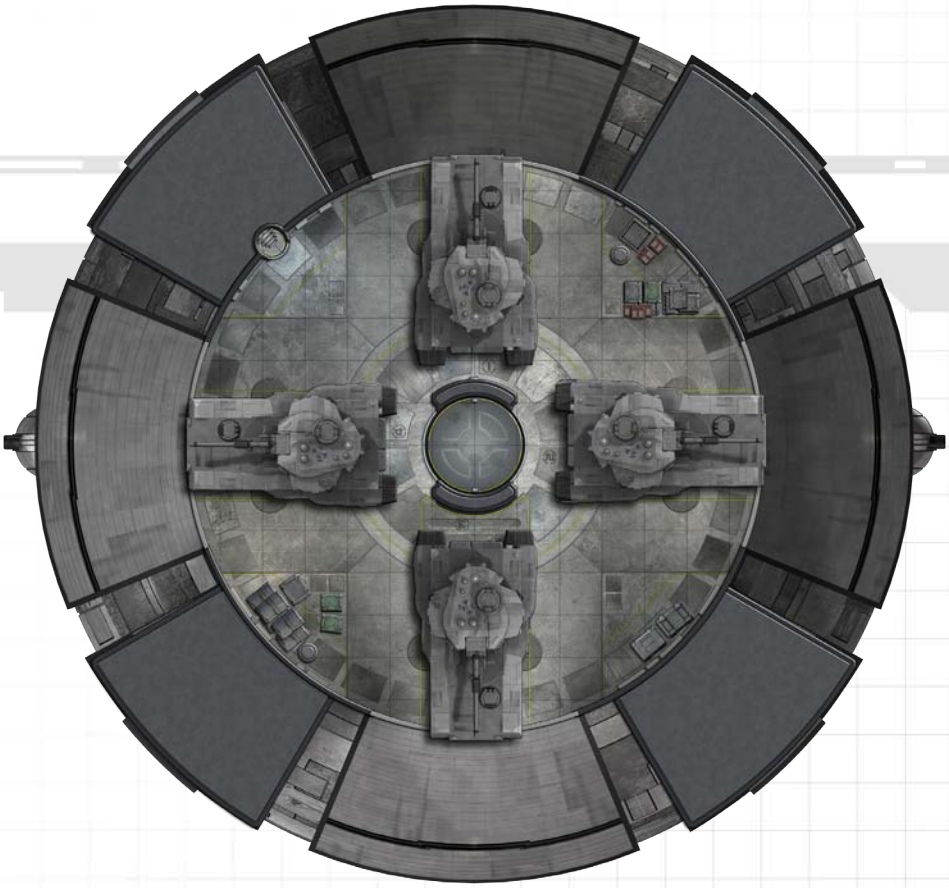
- 4 Plasma Cannons
- Four Missile Tubes (10 missiles

Common Options

- Replace some missiles with nuclear torpedoes or decoys
- Remove cannons to reduce cost









Meridian

The Meridian drop ship is specifically designed to house, transport, and service a lance of four combat mechs. It has been further refined specifically for the Hagetaka-class mech. The doors, catwalk height, and support services have all been built with this particular model in mind, though it is possible others mechs of a similar size could use the craft.

As another example a Meridian could transport four Aries-class hover tanks rather easily. There is room for one in each bay, with ample storage space between. Granted such a use wastes a lot of open space in the top half of the hold, but it is an option - as would be a mixed patrol of mechs and tanks.

Meridian: Interior Areas

Aside from the low-ceilinged Cargo Deck at the very top, the entire lower section of a Meridian-class dropship is a single large chamber. The shape of the massive hold is the inside of the lower half of the sphere, with the four rectangular engine columns running all the way through in the northeast, southeast, southwest, and northwest; and the narrower cylinder of the cargo lift tube running straight down the center.

On the flat, circular floor at the bottom of the sphere stand four hulking combat mechs, facing outwards towards exterior doors as tall as they are. Three quarters of the way up from the floor to the ceiling is a metal mesh catwalk that allows access to the upper parts of the mechs. Above that is a Cargo Deck identical to that found in the Europa, though only half as high.

Catwalk Level

This level is in the open space near the top of the hold. The ceiling supports a pair of winch & claw systems that can be employed to move supplies and ordnance as desired. The cables are long enough to lower the grasping mechanism or adhesion plate all the way to the hold floor. Similar mechanisms are built into the Cargo Deck ceiling and are used to move items from there through the hatches above each mech to reload and repair the machines. Access to the catwalk is either by the cargo lift or the ladder tube built into the northwest engine column.

Catwalk

The mesh balcony encircles the central lift and the four engine columns, with narrow walkways between the former and latter. The rest of the level is open space to allow room for the mechs to stand unimpeded. The combat bots walk backwards into their respective bays so that the back side of the cockpit area slots into a matching indentation in the catwalk (the only area without a safety railing), making it a simple matter to step from the balcony to the ladder rungs on the mech. From there a pilot can move across the top of the mech and enter via the hatch over the cockpit.

There is also a hatch in the hold ceiling directly above each cockpit. This allows a pilot to drop right onto their mech from the Cargo Deck above (which is where they bunk during operations). The can also climb out that way, using the mech hatch as a step, but it is awkward.

Diagnostics, Repair, & Reload Stations

Flanking the engine columns around the catwalk level are engineering stations dedicated to servicing the mechs. There are four identical pairs of controls, one for each bay. One set of controls handles standard diagnostics and maintenance while the other deals with reloading and repairs (more 'active duty' concerns). The redundant stations allow for all four mechs to be serviced in parallel for a faster turnaround.

Engineering Stations

There are also more mundane engineering stations for the Meridian section itself; particularly useful when the dome section is away. These are the controls that would allow for the limited movement of the Meridian section, as well as handle its sensors, shielding, and weapon systems if the section is in "outpost mode". The catwalk level can be a busy place even if the lance is out on a mission. There are additional controls attached to the engines on the Cargo Level as well.

Mech Bay

Beneath the catwalk is a long drop to the circular floor below. This floor area is divided into four quadrants: each a place for a single mech to stand, with a little room for parts and cargo to either side. The bays are numbered 1 through 4, with 1 being towards the "front" of the ship. The bay floor has extra strong mag plates inset to secure each mech's feet. There are also couplings for maintenance and diagnostic connections, though the majority of these are overhead at the catwalk level.

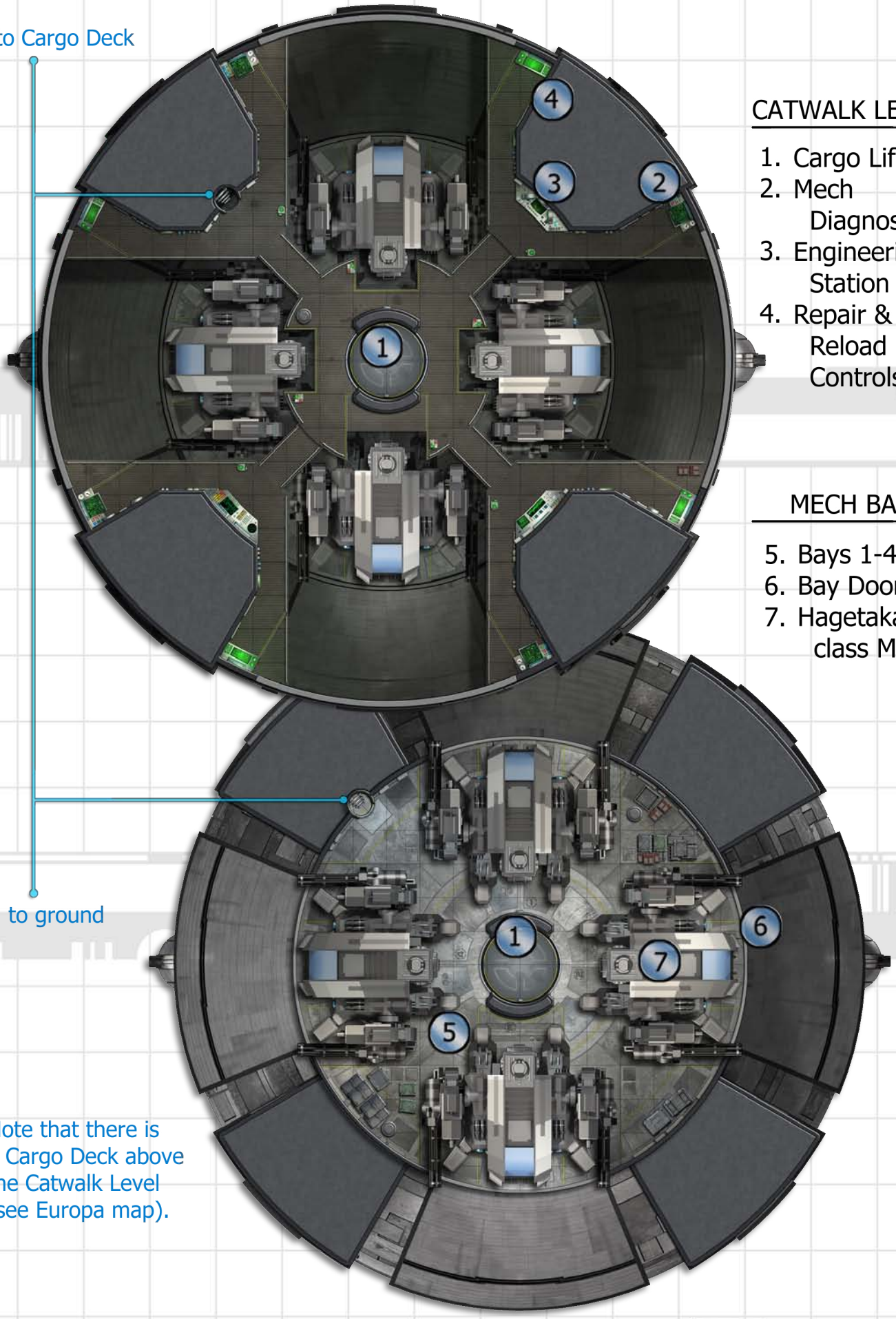
This entire level is one large open space with the four engine columns at the northwest, southwest, northeast, and southeast corners and the cylinder of the cargo lift tube running vertically down the center. Between each engine column is a 50 foot high exterior door.

The walls of this level curve outwards as they rise, tracing the interior of the lower half of the sphere that is the hull. When standing it its bay, the mechs face outwards towards the large exterior doors. The lower part of each massive door lowers to form a ramp while the upper section hinges upwards to provide enough headroom for a mech to walk out of the bay. Note that, for bays 2 and 4, this could block the line of fire from the turret directly overhead - and so that part of the door is not opened until necessary.

The open rectangular lift is still present in the Meridian variant but it is only usable if the mech in bay 3 is absent. The section of catwalk above is designed to detach so that it can also be moved out of the way of this lift.



to Cargo Deck



to ground

CATWALK LEVEL

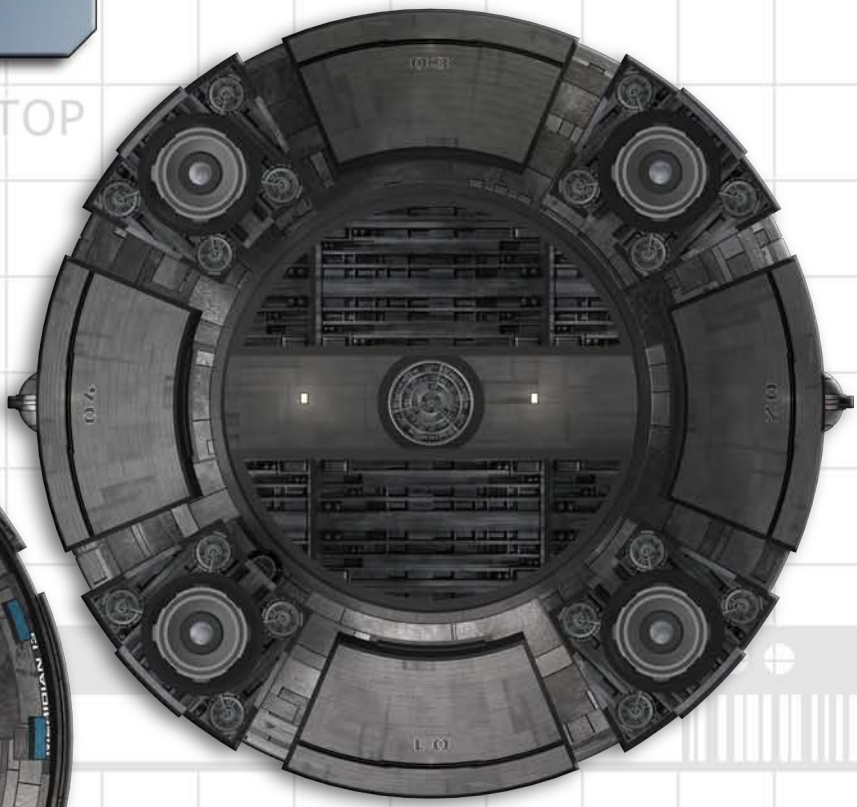
1. Cargo Lift
2. Mech Diagnostics
3. Engineering Station
4. Repair & Reload Controls

MECH BAY

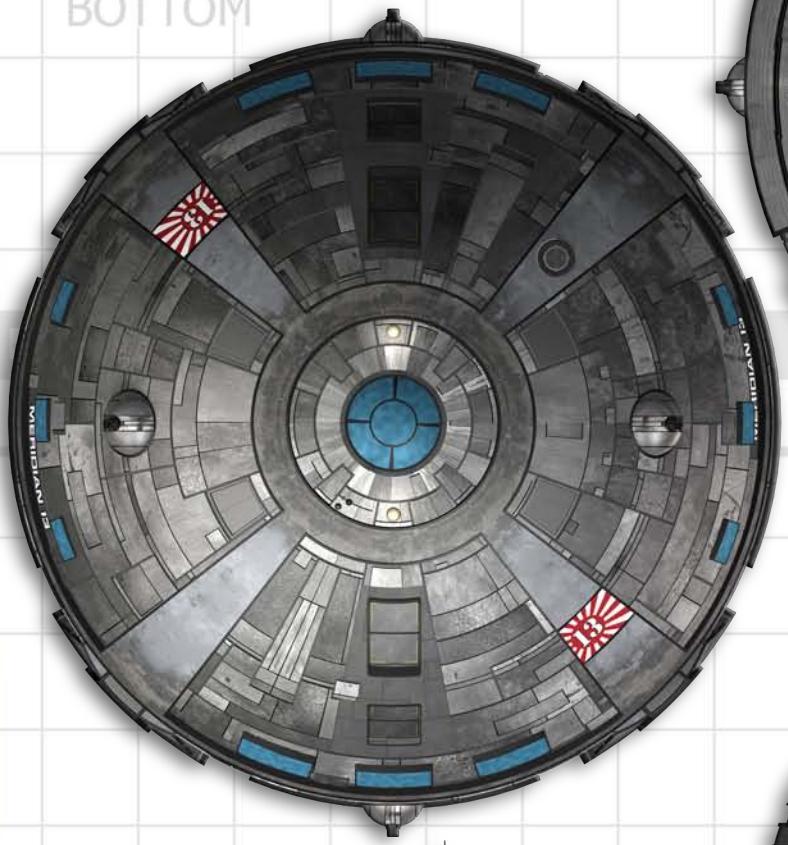
5. Bays 1-4
6. Bay Door
7. Hagetaka-class Mech

Note that there is a Cargo Deck above the Catwalk Level (see Europa map).

TOP



BOTTOM



SIDE





FRONT



30 ft

ATLAS - MERIDIAN

Classification	dropship
Origin	Tōhoku Colonies
Registration	military
Dimensions	115 x 115 x 112 ft. (LWH)

Register Tonnage	9710
Cargo Capacity	332 register tons
Standard Crew	6 + 12 marines
Passenger Capacity	4 pilots

Notes

• Dome section can detach.

Vehicles carried:
• 4 Hagetaka-class combat mechs
• 4 Exo-frame cargo movers
• 5 Ryukin-class escape pods

Technology Level	■■■□□
Relative Cost	■■■□□
F.T.L. System	■■□□□
Acceleration & Maximum Speed	■■■□□
Maneuverability	■■□□□
Atmospheric Performance	■■□□□

Default Armament

• 4 Plasma Cannons
• Four Missile Tubes (10 missiles

Common Options

• Replace Mechs with Aries-class hover tanks

Durability	■■■□□
Offensive Capability	■■■□□
Defensive Capability	■■■□□
Computer System	■■□□□
Sensors & Communications	■■■□□



Pangea

Pangea is the passenger variant of the Atlas design. Built primarily for civilian use it is lacking the gun emplacements by default, though it retains the missile tubes. Internal systems are modified to support a larger number of people on board with a focus on comfort and safety. This variant was added later in the design process as an obvious attempt to squeeze more profit out of an ongoing contract. She ship is adequate as a people mover, though it is too small and too inelegant to be called a “Liner”. But for smaller runs that need to support a range of fares, it gets the job done.

Pangea: Interior Areas

The lower section of the ship is divided into four decks with the upper pair being identical and the lower pair likewise copies of one another. All four decks are devoted to providing living space for paying passengers, though the upper decks are quite a bit nicer than those below.

High Passenger Decks

The two upper decks of the lower section contain suites and cabins for paying passengers. Those who stay here are generally allowed to move between these two decks and the Crew Deck at their leisure. The dining hall, lounge, theater, and so forth are for passenger use. They can go to the lower passenger decks if desired, but there is little reason to do so. The Support Deck and Bridge level in the dome section are restricted access.

There are two identical high passenger decks but only one map is shown. The only difference, aside from the contents of the vending machines, is that the exterior walls curve inwards slighting on the lower deck while the windows on the higher deck have an additional foot of bulkhead to penetrate.

Hub, Arcade, & Vending
The cargo lift opens into the center of this deck as usual. Adjacent to the circular area is an open lounge and an alcove with an ice machine. Doors lead to a pair of guest suites (with numbered doors) as well as a storage room and a small public restroom.

To starboard is an area with stand up video game units along one wall and vending machines along the other. A couple more snack dispensers are in the matching area to port.

Unique to the Pangea variant is the extension of the personnel lift from the upper dome section into the lower section of the ship. Though it only extends to the two High Passenger Decks, it allows a convenient way for passengers and crew to move between these levels. Travelling further down into the ship requires the use of the cargo lift or the single ladder tube.

Guest Suite
The guest suites look a lot like the officer's quarters on the Support Deck of the dome section. Each contains a large bed set into a composite frame with a desk at one end and built in amenities like a video unit at the foot of the bed and reading nook in the headboard.

Each suite also contains a couch, night stand, closet, and private bathroom. The closet holds a shelf and bar for hanging clothes. The restoom as a whole also serves as a shower. There are four suites on each High Passenger Deck

Guest Cabin
Onboard Pangea cabins differ from suites in that they have single rather than double beds and lack a private bathroom. They do have the same couches and closets as the suites, and the bed frames - though smaller - also have built in desks and so forth. The seven cabins share a pair of public restrooms and single shower on this deck.

Sensor Dome
The cabin directly to starboard from the hub loses some of its space to the sensor dome built into the hull at this point. This is the same area that would house the gun turret in a Europa or Meridian. Some Pangeas do, in fact, retrofit weapons here - but the default configuration is to eschews such armaments.

Escape Pods
There is a pair of Ryukin-class escape pods at the forward end of each High Passenger Deck and a matching pair at the aft end. As each can accommodate half a dozen passengers, this means up to 48 people can escape via these small ships. There are beds for 30 passengers on these decks, which leaves some (but not enough) extra space for lower deck passengers that manage to make it up here in time; and that's assuming the high passengers don't just launch with half empty pods.

Lounge
The lounge area provides a wall screen and large video unit for entertainment plus some tables for games, conversation, or eating snacks from the nearby vending machines. Lockers against one wall are filled with games and nick knacks for public use.

Storage Room
This chamber has shelves lining one wall with cabinets and lockers lining the other. All are filled with the cleaning and general supplies used to keep passenger quarters up to snuff. The room is also used at passenger request to store extra luggage or other items that would crowd a cabin or suite.

Low Passenger Decks

The bottom two decks in a Pangea-class transport contain dormitories and storage space for budget travellers. Though the various chambers can be isolated by sliding door panels, they are often left open except during sleep hours. This makes it feel less claustrophobic.

Unlike the Europa and Meridian design, the outer edges of these levels are straight up and down walls rather than the sloping bulkheads of the inside of a sphere. That extra space between the walls and hull is filled with additional life support, fuel, and other equipment that let Pangea safely transport a large number of people on long journeys.



Ryukin-class Escape Pod

Central Hub
The middle part of the deck has the usual cargo lift tube in its center. Aside from the ladder tube in the break room this is the only easy way up or down from this level. From the lower deck the tube can extend down to ground level if the ship is sitting on the tarmac. When so landed, the large cargo doors can also be used, ramp-like, to enter or leave the ship.

Dormitories
Each dorm contains four beds, four lockers, and a small table. It is not uncommon for the beds to be replaced with bunks to double capacity but this definitely makes the lower decks overcrowded and even more unpleasant than normal.

Each dorm has its own small restroom/shower combo. As mentioned, the large doors towards the hub are sliding panels that are often left open during the day. Normal doors on either side of the room lead to storage areas and are seldom used except as an alternative to sliding the large panels open (which can be noisy and so rather rude to do during designated quite hours).

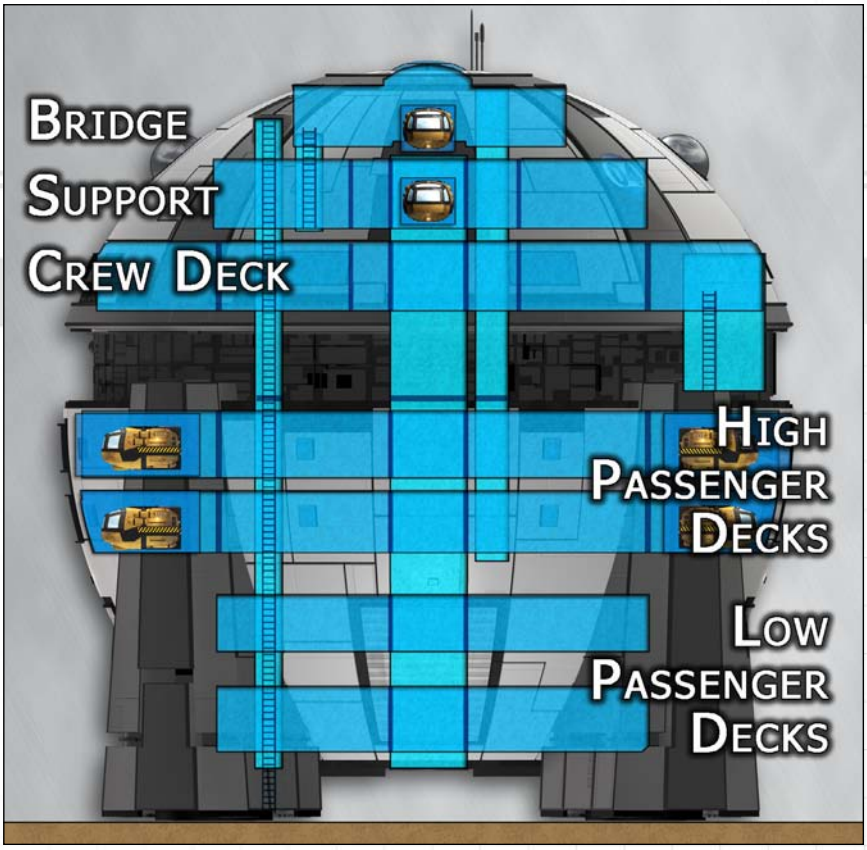
Break Room
This combination snack room and lounge is about the only place for low passengers to congregate comfortably outside of their sleeping rooms. There are a few tables and an assortment of venting machines that serve both hot and cold snacks and beverages. A couple of old video units adorn the walls and an alcove holds a small beverage station and meal heater/rehydrator.

The break room occupies the same sort of space as a dormitory and has the same sliding doors along its inside wall. These panels, however, are always open. The doors on the side of the room lead to an open cargo area and enclosed luggage room.

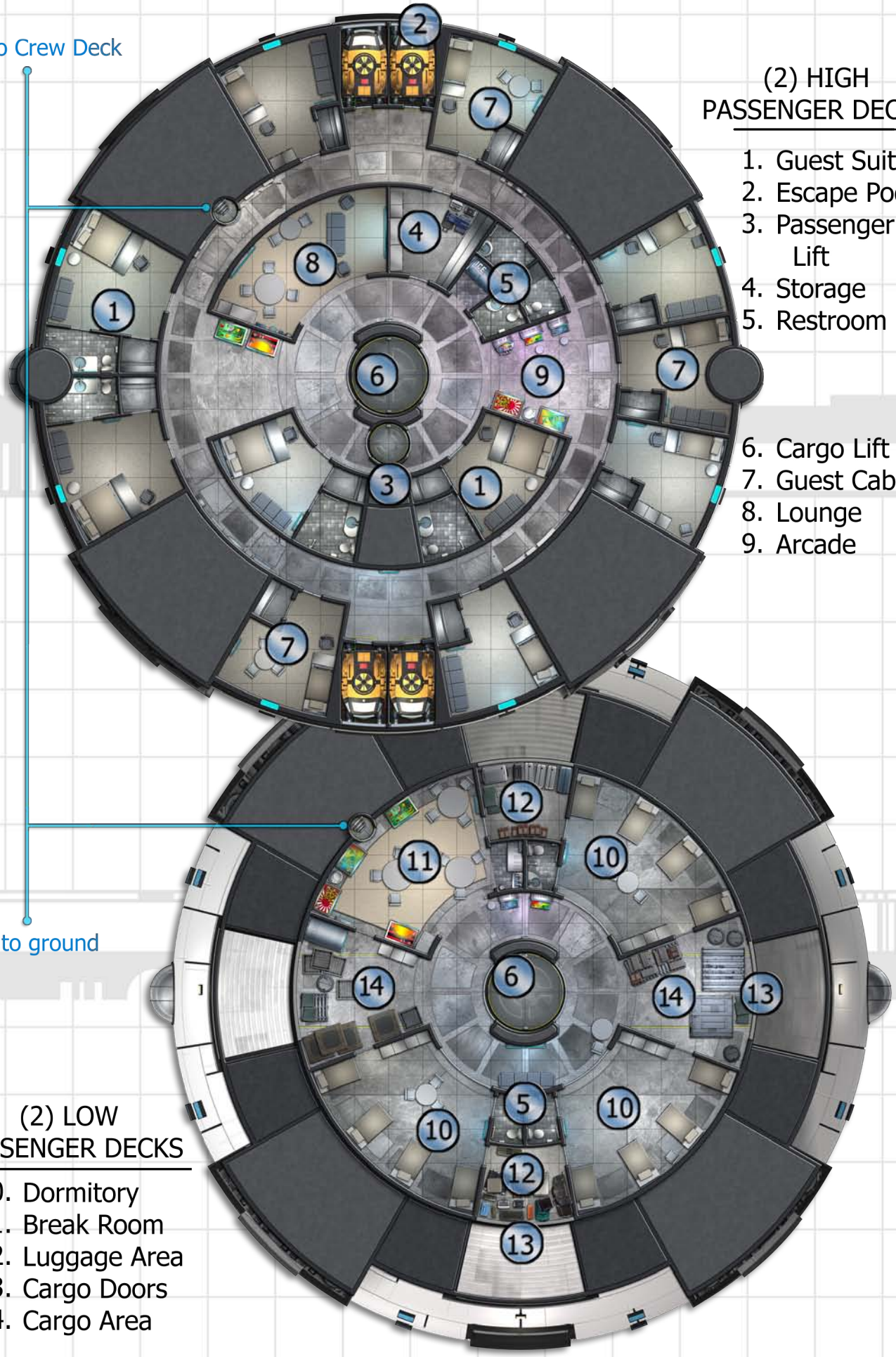
Cargo Area
On the port and starboard side of the deck are spaces set aside for cargo, though the port side also has a laundry machine and some lockers filled with linens. The crates and boxes on either side contain supplies for the whole ship - not just the occupants of this deck. The exterior wall of these areas is a cargo door that hinges outwards to become a ramp down to ground level (about ten feet below deck level). The same sort of door/ramp is found in the luggage areas.

There is an identical cargo space on both of the Low Passenger Decks but there is only one big cargo door, so when it is open both areas are exposed - like a cabinet with a shelf in the middle. The higher level is not easily accessible from outside without something like a forklift or antigrav. Because the door slopes outwards even when closed, there is a gap of approximately three feet between the edge of the floor and the door on the upper level. This space is open to the lower cargo or luggage area without so much as a rail to prevent a potential fall.

Luggage Room
At the fore and aft end of the deck are additional cargo areas. These are smaller because the part of the room closest to the hub has been walled off and turned into restrooms. The remaining space is used to hold luggage and the rooms are kept locked to deter theft. As with the cargo areas, there is a gap between the upper floor and the outer wall/cargo door. This makes it possible, though awkward, to move between levels at this point.



to Crew Deck



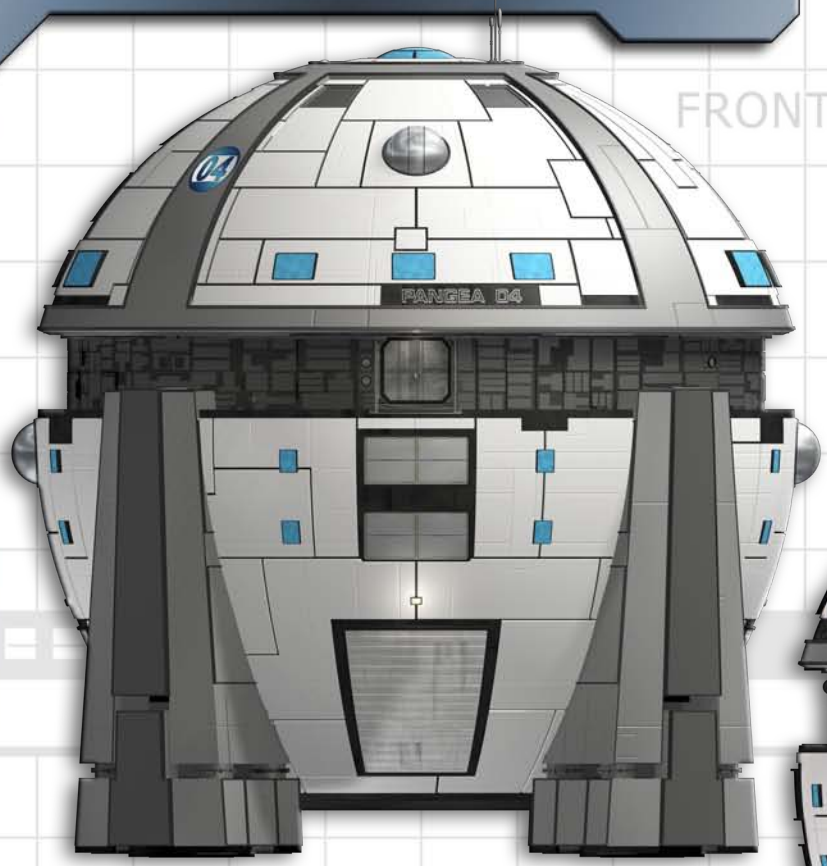
to ground

(2) HIGH PASSENGER DECKS

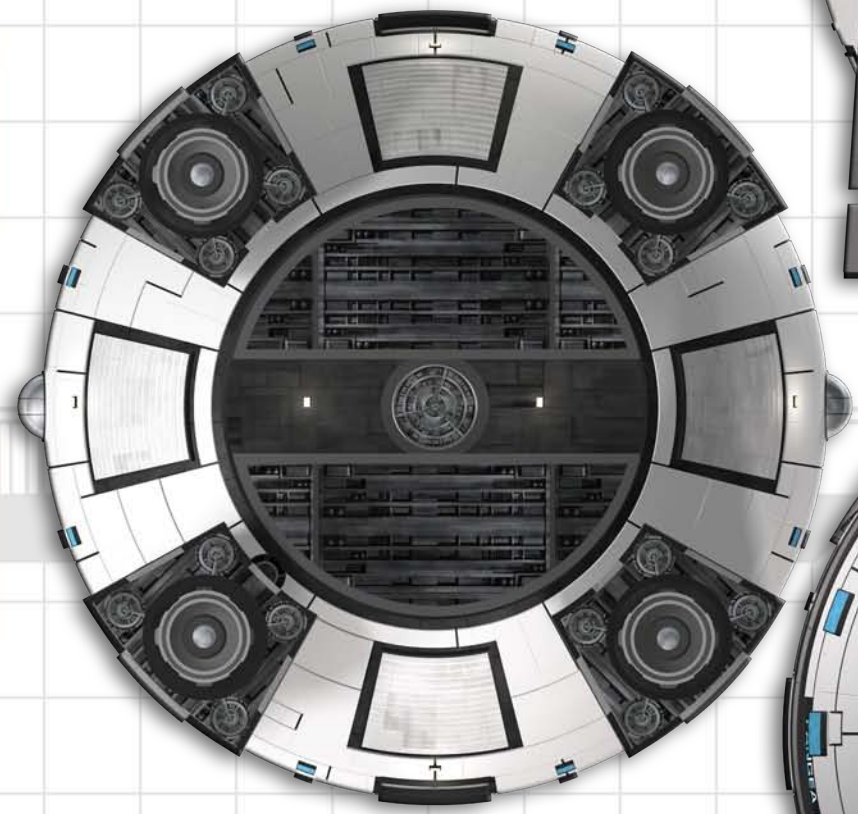
1. Guest Suite
2. Escape Pod
3. Passenger Lift
4. Storage
5. Restroom
6. Cargo Lift
7. Guest Cabin
8. Lounge
9. Arcade

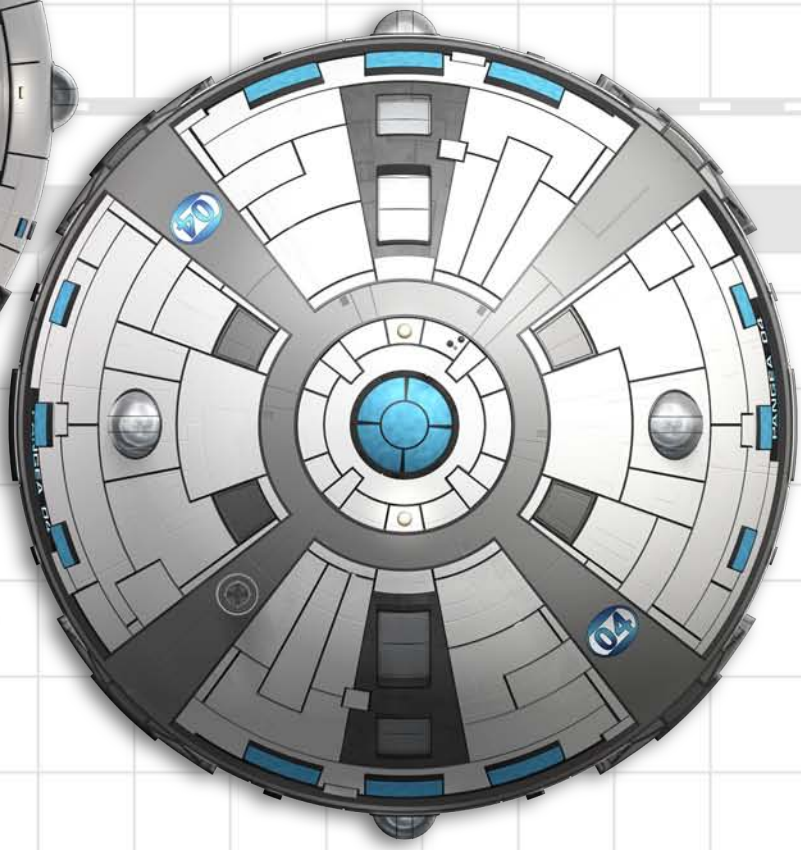
(2) LOW PASSENGER DECKS

10. Dormitory
11. Break Room
12. Luggage Area
13. Cargo Doors
14. Cargo Area









30 ft

ATLAS - PANGEA

Classification	passenger transport
Origin	Tōhoku Colonies
Registration	civilian
Dimensions	112 x 112 x 112 ft. (LWH)

Register Tonnage	9690
Cargo Capacity	162 register tons
Standard Crew	6
Passenger Capacity	12 above, 46 below

Notes

- Dome section can detach.
- Gun turrets replaced with sensor, navigation, & communication arrays.

Vehicles carried:

- 12 Ryukin-class escape pods

Technology Level	
Relative Cost	
F.T.L. System	
Acceleration & Maximum Speed	
Maneuverability	
Atmospheric Performance	

Default Armament

- Four Missile Tubes (10 missiles total)

Common Options

- Replace some missiles with nuclear torpedoes or decoys
- Use double bunks in dorms for 24 more passengers.

Durability	
Offensive Capability	
Defensive Capability	
Computer System	
Sensors & Communications	

Auxiliary Craft

This final section of the document describes the smaller craft or vehicles carried by the Atlas variants. This includes the Ryukin-class escape pod found on all three variants, the modified Cargo Moving Exo-frame found on the Europa and Meridian, and the Hagetaka-class combat mech exclusive to the Meridian dropship.

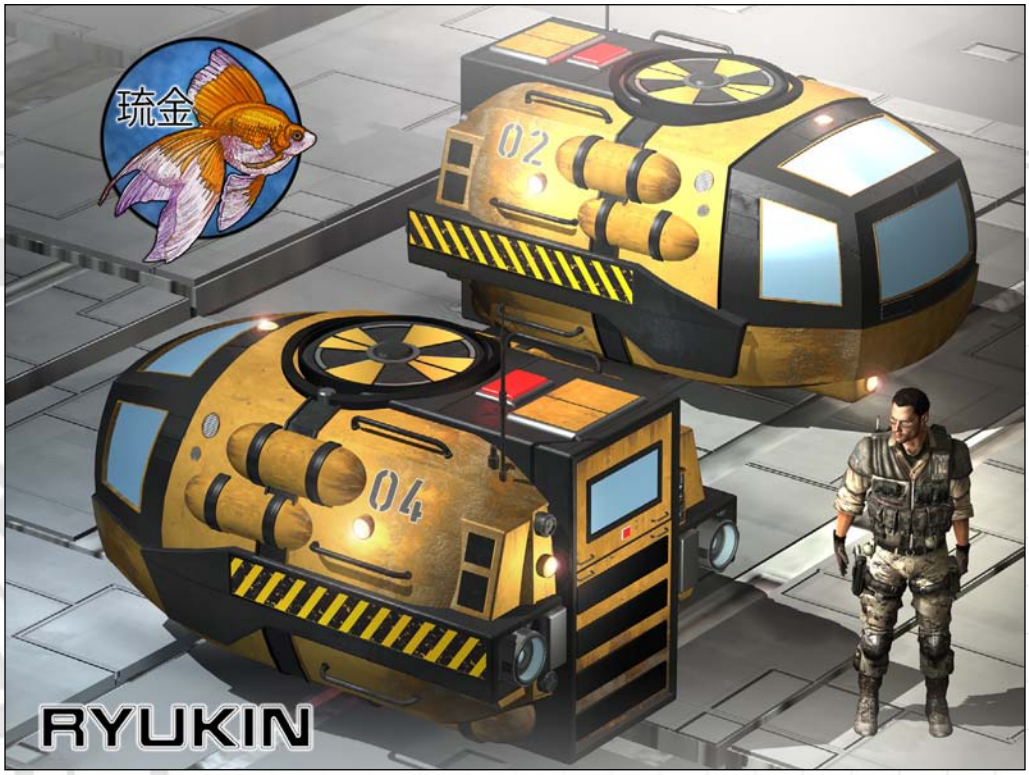


Ryukin-class Escape Pods

The name Ryukin is taken from a variety of plump goldfish known for its hunchback appearance. It is an appropriate appellation for this little ship: plump, slow, and non-threatening. The goal with this particular escape pod was to maximize the number of occupants in a very small volume. With six seats in a 10x5 craft, that goal has been achieved.

This particular model of escape pod is basically a single-use shuttle. The touch controls at the front allow for basic piloting, though it operates on its own by default using telemetry from the parent ship at the time of launch. A Ryukin has simple sensors and communications systems but no offensive or defensive equipment. It can make a single planetary landing, and traverse a fair amount of distance either overland or in space, but the interior can only maintain full life support for 18 hours. When it does land, it is in a controlled descent and gentle touch down like any shuttle - not the fiery ballistic arc and trench-gouging impact typical of emergency craft making planetfall.

The pod has an emergency beacon and basic first aid kit, but little in the way or provisions or amenities. There is some potable water but no food, and no toilet facilities. The assumption is that the pod will be piloted to a nearby ship for rescue, or travel to an outpost or other civilized area rather than drift for days in the void or deposit its occupants into a remote wilderness. As such Ryukin are best suited to ships that travel in convoys, along well established routes, or within populated systems.



Exo-Frame Cargo Mover

An exo-frame cargo mover is basically a forklift you wear. They come in different shapes and sizes but have several common features. The operator stands within the frame and it mimics his or her leg, torso, and arm movements. Though speed is slow and agility non-existent, the exo-frame provides the strength and stability needed to handle the type of cargo commonly found on board today's freight haulers. The frame is open to the elements and so the operator must be suited up if working in a hostile environment.

The "hands" of an exo-frame are detachable and can be replaced with equipment suited to a specific task. Exo-frames on a Europa or Meridian will use push plates* almost exclusively. A frame equipped with such plates can move everything from medium-sized crates to fully loaded shipping containers. There are other options available: everything from claw-like appendages, to bulldozer-like plows, to scoops, to fire suppression systems, but only push plates are supplied as standard equipment on these particular ships.

The exo-frames commissioned for the Meridian, and later Europa, design have been retrofit with a rapid fire anti-personnel laser affixed to either arm. Supplied by an upgraded power cell, the weapons are cumbersome to aim and are not good for more than a single firefight before needing a recharge or new cell.

The gun mounts are one reason that these particular frames do not easily swap out their push plates for claws or other attachments - since it requires a lot more effort than is needed with the default model. The plates are also all that the frame pilot has in the way of defense since the driver is strapped in place with no cover otherwise.

These armed frames are by no means a front line combat unit. Rather they are seen as a deterrent and last line of defense, at best offering cover fire or taking on fixed emplacements from a distance while the Mechs draw most of the heat.

Because the Europa-class was initially designed as a military cargo ship it comes equipped with the same armed exo-frames as the Meridian variant. It is not uncommon for these to be replaced with unarmed models in ships that stick to the more civilized areas of space since the convenience of easily swappable appendages often outweighs the benefits (and legal hassles) or toting around armed cargo movers.

*A push plate is a heavy, thick square of metal and electronics typically two to three feet on a side – much like a section of grav plating cut from the deck of a ship plus an internal power supply and controls. One side of the plate is designed to molecularly adhere to crates and containers constructed of metal or common composites, while the other has the controls and handles for lifting/pushing. When paired with a matching set of plates, a local anti-gravity field is set up between – allowing the bracketed object to hover weightless. Inertial manipulation is also possible to a limited extent (effective mainly as a braking mechanism). Power usage ramps up geometrically as mass and distance between the plates increases. They work well for moving crates, cars, and containers, but burn out too quickly to be useful when applied to objects like ships and large shuttles.



Hagetaka-class Combat Mechs

Before now, combat mechs were found almost exclusively within the distant worlds of the Tōhoku Colonies. Even there they were more often seen fighting in an arena or sanctioned duel than on the battlefield. This is due mainly to the fact that these worlds exist in isolation on the far side of the ConFederation and have yet to experience large-scale war. The machines themselves, however, are quite effective in combat when given the chance - especially when operating in small groups as rapid recon and strike forces. During the Umbral Wars the Shogunate was honor-bound to assist and the Atlas Project, with its Hagetaka (Japanese for "bald-hawk" or "vulture") combat mechs, is one result of that obligation.

Many varieties of combat mechs have previously evolved among the Tōhoku Clans where they have become the favored weapon of nobles and gladiators alike. They range in size from 10 to upwards of 60 feet and sport a huge variety of offensive and defensive systems. The Hagetaka-class mech was chosen as the standard for the Merdian-class dropship because it is a well tested model used extensively by the Royal Guard of Yoto Xi. The schematics were given to the Atlas shipyards so that a lance of four Hagetaka could be rolled out with every Meridian that left the assembly line.

Each Hagetaka is guided by a single skilled pilot who sits in a cockpit crammed with complex controls for maneuvering the bot while simultaneously operating the weapons, navigation, and sensor systems. Major weapon systems include arm-mounted plasma guns for high damage up close, shoulder-mounted particle cannons for precision at long range, and a pair of small missile launchers with four missiles each. The arm-mounted guns use neutronium pellets; vaporized, mixed with high energy particles, and fired as a plasma-like bolt that inflicts both kinetic and thermal damage. To slow overheating, the guns rotate through multiple barrels in rapid succession. Missiles are usually armor piercing high explosive ordnance for use versus other mechs, but alternative load outs are possible.

Minor weapons include a pair of nose-mounted fixed-forward lasers, a grenade launchers, and a swivel-mounted antipersonnel plasma gun. The lasers are intended more to harass and distract than inflict serious damage except on the softest of targets. The grenade launcher is mounted underneath the cockpit. It can throw grenades slightly forward of the mech or drop them directly below. The typical load includes incendiary, flechette , and smoke or gas rounds - all meant to be harmless to the mech but lethal to enemy ground troops that venture too close. The swivel mounted anti-personnel gun, also mounted beneath the cockpit, provides a way for the mech pilot to target individual troops where the "big guns" would be impractical.

The successful integration of Tōhoku battle mechs with standard ConFederation ground forces has opened the possibility that these, and other exotic items from the Shogunate, may soon become a standard part of human military operations across known space.

[End of Chapter]

