Jinshan Class Mining Ship

Developed in YE 42, the RHI-L1 Jinshan (金山 or Gold Mountain in Trade) Miner is designed to function as an independent miner. It was released for internal use in YE 43 and to the public in YE 46.

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History

Since it inception, Ryu Keiretsu's Takeda Minerals and Mining relied on single ship miners such as the Ge-Y1-4a - "Henkei" Prospector and its cargo variant (Ge-Y1-2a - "Henkei" Cargo Runner to chase down and conduct asteroid mining. Then another ship would come to collect the ore (as well as ore from planet-side operations) to ferry to refineries. But this proved to be an inefficient solution as ships were spending more time traveling than actually mining. In order to address this, the corporation worked with fellow RyuK subsidiary Ryu Heavy Industries to develop a new class of ship that could stay on station for longer before having to unload.

The Jinshan is capable of operating as both a miner and as a bulk carrier.

Description

The Jinshan Class Mining Ship, introduced in YE 42 by Ryu Keiretsu's Ryu Heavy Industries, represents a significant advancement in space mining technology. Designed to function as an independent miner, it marked a departure from the inefficiencies of previous mining operations that relied on single-ship miners and separate ore transport vessels. The Jinshan's dual role as both a miner and a bulk carrier streamlines the mining process, allowing it to stay on station longer before needing to unload, thus maximizing operational efficiency. Its ability to handle various types of goods, including ores, SSCS, and liquids, combined with its mining capabilities, make it an invaluable asset for any mining operation. The

Jinshan's design emphasizes functionality and efficiency, featuring a flat and long appearance that optimizes space for cargo and mining operations.

Mission Specialization

The Jinshan Class Mining Ship is specialized in two main areas:

- Transportation of Goods: The Jinshan is adept at transporting a wide range of goods, particularly those related to mining operations. Its design allows for the efficient handling of ores, solids, semi-solids, and liquids, making it an excellent choice for organizations that require a versatile transport vessel capable of carrying diverse cargo types.
- Asteroid and Ice Mining: Equipped with state-of-the-art mining equipment, including Multistruct Mining Lasers, the Jinshan excels in asteroid and ice mining. Its design integrates mining and cargo capabilities, allowing it to extract valuable resources and store them efficiently for transport. This dual functionality makes it an ideal choice for mining operations in various space environments, from asteroid belts to icy moons.

Appearance

The Jinshan Class has a generally flat and long appearance. From a distance, it could possibly be mistaken for a tiny Heitan-Class (1B) Carrier if one is not paying attention to distance.

Statistics and Performance

General notes about ship stats and performance

General Statistics for the Jinshan Logistics Ship	
Year Introduced	YE 43
Class/Nomenclature	RHI-L1
Alternative Nomenclature	TMM-L1
Designers	Takeda Minerals and Mining
Manufacturer	Ryu Heavy Industries
Fielded By	Takeda Minerals and Mining, independents
Range	Unlimited with Aether Fuel Generator, 3 months otherwise
Maintenance Cycle	Refits every 5 years is recommended
Lifespan	30 years with regular maintenance and refits
Pricing	100,000 KS

Passengers

Crew: 4 crew members (Captain, 2 Operators, 1 Engineer)

Maximum Capacity: 12 additional people can be crammed into the central corridors for a total of 15 people.

Dimensions

- Length: 35 meters
- Width: 27 meters
- Height: 6 meters
- Decks: 1 (split into the upper deck (2.5 meters) and the lower deck (4 meters minus the rear))

Propulsion and Range

- Continuum Distortion Drive: 998.01c
- Hyperspace Fold Drive: 394,470c (0.75 ly/m)
  - Max Range Between Charges: 20 ly
  - Charge Cycle:
    - 10 LY or less - 2 minutes
    - More than 10 LY up to 20 LY - 5 minutes
  - 7 minute cool down between folds
- Sublight Engines: .27c

Damage Capacity

See Damage Rating (Version 3) for a guide to damage ratings to include.

DRv3 Tier: Heavy Mecha (9)

Inside the Ship

The main hull of the Jinshan Class is located down the middle of the ship. Cargo (shipping containers/ore) is located located in the 2 outer “pods”, 1 located on each side of the main hull.

Bow	Midship	Stern	Notes
Cargo Hold, Hardpoint (2), Forward Ore Hold (2)	Hardpoint (2), Mid Ore Hold (2) Gallery, Crew Cabin (2), Transfer Airlock (2), AI Core	Bridge (upper 2 meters), Engineering	

Compartments

AI Core

Home to the AI computer systems and the ship's AI's cabin if it creates an avatar of itself. Only the

Engineer and Captain have authorization to enter.

Bridge

Taking up most of Deck 1, the bridge has three stations in front of a volumetric display that projects the outside as if it was Transparent Durandium. In the middle is the captain chair positioned in front of a volumetric deck that is used for planning purposes. To the front of the captain are 2 stations (one of the right and the other on the left) where the two operators are located.

The Captain is tasked with actual piloting, navigation of the ship, and designating targets. The two operators are in charge of monitoring sensors and operating the ship's weapons if the AI is proving inadequate.

Crew Cabin (2)

Located to the mid rear of the Jinshan, 2 crew cabins can be located. Each has 2 simple bunks and storage compartments for belongings. A spartan wet bathroom can be found within each one.

Cargo Hold

At 15m long, 9m wide, and 3m high; the Jinshan's Cargo Hold is more of an afterthought and an alternative means of entering the ship.

Gallery

Barely large enough to hold 4 people, the ship's gallery is simply a table with 4 stools and a food preparation station. A volumetric display is located on the far wall for some source of entertainment.

Ore Hold (2)

Measuring at 20 meters long, 9 meters wide, and 4 meters high (a total of 720 cubic meters) each; the Jinshan's Ore Holds can accommodate a wide variety of products generated from mining. Liquid, gas, and plasma can be stored within the holds thanks to forcefields keeping the products from touching the hold's walls. For normal ore, it is simply dumped into it and distributed with graviton projectors built into the ceiling of each old.

Transfer Airlock (2)

Located on each side of the Jinshan, the Transfer Airlocks are used to transfer their contents to larger

ships such as mobile refineries. If the ships do not have proper external connections, they can be used more like a standard dumping mechanism into awaiting containers or attached hoses. Each ore hold is centrally connected, allowing only one airlock to be used. Though this will be slower.

Ship Systems

Below are the various systems and structures that allow the Jinshan to function.

Hull and Frame Construct

The Jinshan Class utilizes a double hull structure composed of Osmiridium and ADNR (Aggregated Diamond Nanorods). All windows and view-ports utilize Transparent Durandium.

Yūgure-class Hull and Frame Assembly	
Primary Space Frame	ADNR (Aggregated Diamond Nanorods) reinforced Osmiridium Major Truss
Secondary Space Frame	Durandium Alloy Secondary Truss and Rod Assembly
Outer Plates	titanium/Osmiridium nanocomposite laminate Plating
Lining	Xirang Gel

Computers and Electronics

The Jinshan Class Mining Ship makes uses of the new KAIMON to control them. The Portal variant makes use of TMM's Tianhe module to allow it to specialize in surveying, charting and scanning at long range. These sensors help speed the surveying of astronomical and planetary features. Which translates for miners to less wasting time (surveying/finding the good ores) and more mining.

- IR Spectrometer (Directional, similar to MIKO Infrared Spectrometer)
- Scalar Field Magnetometers (Directional)
- Neutron Spectrometer (Directional)
- Visual Synthetic Aperture Radar (ViSAR)
- Nuclear Spectrometers (radiation when exposed to exotic rays)
- Neutrino Telescope (similar to MIKO Neutrino Telescope)
- Gravimetric Sensors (similar to MIKO Electromagnetic and Gravimetric Sensors)

Emergency Systems

Due to the potential nature of its cargo, the Jinshan Class makes use of number of systems to both ensure the safety of its crew and minimal lose of cargo.

- Automatic Fire Suppression Systems
- Gel-like Hull Sealant
- Nerimium-based Forcefield-Nested Isolation Doors to maintain internal pressure and repel hostile forces.

- Containment Force Fields (and simple rubber seals)
- Emergency Atmosphere Stations (respirator masks and RHI Type 43 "Megumi" Environmental Skinsuit)

There are enough Ikigai Escape Pods to cover the max number of individuals supported by the life support system.

Life Support Systems

The Jinshan makes use of a newly designed RHI Type 44 Life Support System. Using the Yugumo Standard Life Support Systems as a basic component, they expanded on it to create more of an ecosystem aboard the Jinshan. Like the Type 43 Yu, the RHI Type 44 makes use of environmental nanites produced by Advancer Enterprises and programmable matter.

Atmospheric Systems

Key to any Neplesian-like environment, the Jinshan extracts oxygen from three sources when there is a deficiency: water (electrolysis), living plants from the agricultural decks, and elemental oxides.

Some of the oxygen of the Jinshan is generated from electrolysis. Generally water extracted from industrial usage is used for this process as separating the elements without oxygen binding to it is easier. The remainder of it is generated from oxides of less valuable or very common elements such as silicon.

The ship's atmosphere is regularly filtered with nanite enhanced scrubbers and filters. Excess CO2 is regularly extracted and deposited in elemental form where it is transported to the agricultural and industrial decks for various uses.

Nanites also extract excess water from the air generated from various sources (sapients, cooking, etc) to maintain a constant level of humidity. The extracted water is added to the ship's wastewater system to ensure it is filtered properly. Other harmful chemicals and elements are captured and broken down by waste disposal for reuse.

Water

The objective of the Type 44's water systems is to retain as much of the initial charge of water as possible. To accomplish this goal, waste water goes through multiple nanite filtration filters that extract the most harmful chemicals before they reach a small water treatment plants located around the vessel. At the water treatment plants, nanites extract excess water from the sludge of organic material that isn't needed for material's recycling process.

When there is deficient levels of water, stored hydrogen is burned in chambers containing oxygen to generate water. Water from water tankers or ice miners is also another method of adding water to the Jinshan. All undergo filtration and/or desalination before being added to the ecosystem.

Artificial Gravity

Built into the floors of most floors of the Jinshan, graviton generators are distributed evenly to allow artificial gravity on the ship. The generators are variable, allowing for different levels of gravity. One room for Shukaren Daur (Sub-Species) can be at the high gravity of their homeworld, while another species can have low gravity. When main power is disrupted, the generators enter a low power mode and draw from their own batteries to generate 0.1 Gs.

The artificial gravity system also does a good job of dampening the inertia of the ship.

Organic Recylcing

Biowaste is recycled by gene-engineered microfauna and nanites that recycle nutrients for use in aeroponics systems.

Waste Disposal

Non-organic material is stored for processing when the Jinshan returns to port.

Power, Propulsion, and Shielding

Relying on the Ryu Heavy Industries' preference for hyperspace travel, the Jinshan Class makes use of the RHI RHI-L1-P4300 Hyperdrive. To supplement the hyperdrive for inter-system travel, a RHI-L1-P4301 CDD drive with Mizu II Series Continuum Distortion Drives components provides short bursts of FTL speed.

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Three RHI-L1-P4303 Fusion Plasma Drives (1 in the main hull and 1 on each side pod) provide sublight propulsion. The Fusion drives are supplemented with Navitium capacitors. For high power applications such as using the 4 Multistruct Mining Lasers, a Class 4 Aether Fuel Generator is available (in addition to topping off depleted fuel reserves).

The Jinshan Class is capable of producing a Combined Field System for defensive shielding. Electrostatic/Gravimetric shielding act as a back up, but it is no where near as powerful (Tier 10) as the

main CFS. (ion thrusters) are used as maneuvering thrusters for station-keeping.

Weapons Systems

The Jinshan Class makes use of 48 Magathiel Mini-Missile Cell for defensive purposes.

For mining, 4 hardpoints (2 above, 2 below) accommodate a single Large Multistruct Mining Lasers. RHI Multistruct Lasers come in a dome-like structure.

OOC Notes

Demibear created this article on 2021/04/17 03:21.

Approval Thread: https://stararmy.com/roleplay-forum/threads/jinshan-class-mining-ship.71431/

Products & Items Database	
Product Categories	small craft
Product Name	Jinshan Class Mining Ship
Nomenclature	RHI-L1-1A
Manufacturer	Ryu Heavy Industries
Year Released	YE 46
Price (KS)	100 ,000.00 KS

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Artwork by Andrew.