

# Xuanwu Class Trans-atmospheric Shuttle

Designed in [YE 43](#) and released in late [YE 45](#), the RHI-T2 Xuanwu (玄武, Lianjia Speech for the Black Warrior/Black Tortoise keeping up the sky) Shuttle is [Ryu Heavy Industries'](#) first attempt into the rather crowded small shuttle market.

## History

Wishing to purchase ships from corporations such as [Origin Industries](#) and [Yugumo Corporation](#) to rebuild their corporate fleet in [YE 42](#), the Ryu Keiretsu needed a shuttle that was small and still carried a decent amount of personnel and cargo. Though the honest truth for the Xuanwu's existence was that shuttles currently on the market were too flat for the tastes of RyuK's [president's](#) tastes. Thus he ordered Ryu Heavy Industries was to remedy the situation.

The [Skylyte/T11 Tanuki](#) was chosen as the rival to complete against due to it being purchased by the RyuK as a temporary solution. Where the Skylyte Shuttle emphasizes speed, the Xuanwu's engineers wanted to corner the market with a vessel with superior agility and the ability to land in multiple locations.

When the prototypes entered their flight tests in [YE 44](#), the name Xuanwu was chosen due to the resemblance the 4 engine nacelles have to legs. One observer even joked it looked like a flying turtle from a favorite comic they read as a child.

## Description

The RHI-T2 Xuanwu is a mixture of an atmospheric VTOL aerodyne and a trans-atmospheric shuttle. The arrangement of the engines allow it the Xuanwu to operate within a wide range of environments from urban to high altitude mountains. But this versatility requires the pilot and co-pilot to be trained to the same standard as fighter pilots.

## Mission Specialization

The RHI-T2 Xuanwu is designed to provide the following:

- Troop Transport/Ferrying Personnel
- Medium-Lift Transportation

## Appearance

The Xuanwu's overall shape could be described as a wide brick. Having a blocky appearance with smooth

angles, the craft rests on 4 engine nacelles with reinforced ends. When the craft lifts up, the nacelles move 45 degrees to the front and rear to help generate lift (an anti-gravity drive does the rest). This configuration is also used for hovering and to maneuver at low speed. The nacelles move 90 degrees at cruising and max speeds within the atmosphere/vacuum.

2 wide sliding doors are located on each side of the craft. To load small vehicles and pallets, a rear ramp is also built into the Xuanwu.

## Statistics and Performance

General Statistics for the Xuanwu Class Small Craft	
Year Introduced	YE 43
Class/Nomenclature	RHI-T2-1A
Designers	Ryu Heavy Industries
Manufacturer	Ryu Heavy Industries
Fielded By	Ryu Keiretsu, customers
Lifespan	20+ years with with regular maintenance and refits
Refit Cycle	Recommended to have major overhauls every 10 years
Production	Mass Produced, at any shipyard with a limited use or permanent blueprint
Pricing	100,000 KS

## Crew and Passengers

Crew: 3 operators (Pilot, Co-Pilot, and Crew Chief) are recommended, but only 1 is required to operate the RHI-T1. The Crew Chief also acts as the shuttle's loadmaster and flight engineer.

Maximum Capacity: For light PA/personal armor personnel, the Xuanwu's cargo hold can be equipped with 3 rows of 12 seats (6 on each side) with additional sitting available from permanent folding seats (4 in the back and 2 to the front). In this configuration, it can carry 42 personnel.

This is variable depending on how much equipment is also being carried.

## Dimensions

- Length: 11 meters (Cargo hold is 6.93 meters)
- Width: 5.5 meters (Cargo hold is 3.12 meters)
- Height: 3 meters (Cargo Hold is 2.27 meters)

## Propulsion and Range

- Continuum Distortion Drive: 8,500c
- Hyperspace Fold Drive: 262,980c (0.5ly/m)

- Range: Maximum distance crossed in a single fold is 20 light years.
- Charge Cycle:
  - 10 LY or less - 30 seconds
  - More than 10 LY up to 20 LY - 60 seconds
  - 7 minute cool down between folds
- Sublight Engines: 0.325c (max, cruising speed is .25c)
- Range: 30 days or Indefinite (if using Hyperspace Fuel Tap enhanced drives)

## Damage Capacity

See [Damage Rating \(Version 3\)](#) for a guide to damage ratings to include.

- Armor: Tier 7
- Shields: Tier 7

## Inside the Ship

The interior of the RHI-T2 Xuanwu is designed to have subtle fashion with ease of maintenance being a priority. The only exception to this is the cockpit, with crew morale being a concern.

## Compartment Layouts

The RHI-T2 Xuanwu is split into four parts: cockpit block, service block, cargo bay, and engineering.

### Cockpit Block

The cockpit displays are a mixture of volumetric projectors and LCD screens to display important information to the two pilots. The pilots sit side by side in the front of the cockpit in chairs that slide back and turn 180 degrees.

The volumetric projectors can be used by the shuttle's AI (or another plugged in) to display their avatar as well as data port that can accept a data chip containing another AI (such as a [Savtech JANE](#)).

The crew can communicate mentally with the KAIMON AI either with their [Superconductive Quantum Interface Device \(SQUID\)](#) equipped helmets or another form of neural interface (excluding [SPINE](#) interfaces). For individuals without neural interfaces, compatible augmented reality eyewear is also available if the volumetric displays fail.

### Service Block

Located between two air-locked bulkheads with double-sealing doors (one leading to the cockpit and

another to the Cargo Bay), it mainly exists to service the shuttle crew. A toilet is located within the right paneling of the service block. On the left side, food preparation equipment be found.

## Cargo Bay

The central cargo compartment has 2 main means of entering and exiting it: 2 calmshell style sliding doors and a rear ramp. All are sealed, allowing the compartment to be environmentally sealed. Access to the life support system (but not the controls) is also hidden behind panels in the ceiling of the bay.

## Engineering

Contains the single CDD drive, hyperdive fold drive, main power systems.

# Ship Systems

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

## Armored Hull and Hull Integrated Systems

The RHI-T2 Xuanwu makes use of [Durandium Alloy](#) for the inner hull and 2 layers of [Titanium/Osmiridium](#) nanocomposite laminate plating for armor, measuring 20cm in width together. A spaced gap filled with a shear-thickening [Xirang Gel](#) between the hull and spaced armor provides additional protection to the inner hull from [spall](#) created by kinetic impacts. The windows of the cockpit are made with [Durandium-T](#).

## Computers and Electronics

Presently the RHI-T2-1A Xuanwu makes use of the RHI-T2-E4300 [Portal class KAIMON](#) installed with a [Ryu Systems and Instrument's](#) RaiNE OS based AI. The AI is stored on a tablet that is located on the right side of the cockpit (the pilot position). In normal operations, the AI uses the shuttle's onboard AI hardware. But in an emergency, the the tablet can be used as a backup (although with reduced functionality and a greatly unhappy AI). Normally it is used for flight checks and other important functions. The AI can be transferred between it's main location and the tablet with the use of a [Kamasu Data Chip](#).

The Xuanwu lacks an autopilot system beyond micromanaging flight systems pilots do not need outside of combat/need fine control. The shuttle AI also assists with start-up/shut down sequences, reducing the time it takes compared to more analog systems.

## Emergency Systems

The RHI-T2 Xuanwu emergency systems are simple.

- RHI-T2-V4302 Fire Suppression system: The RHI-T2 uses a dry chemical-based fire suppression system, which, in the presence of fire, will spray a dry powder on the source of the fire, displacing oxygen and reacting with any oxidizers rendering them inert and putting out the fire.
- RHI-T2-V4303 Atmospheric Retainment System: In the event of a hull breach, door failure, or other events in which the internal atmosphere might vent to vacuum, the shuttle has a retainment system that automatically activates, sealing air in, but allowing more massive objects through.
- RHI-T2-V4304 Crash Bags: Within the cockpit of the T2-1A, crash bags exist to within the volumetric displays that deploy to lessen the injuries of the three crew members.

## Life Support Systems

The RHI-T2-V4300 Life Support System of the RHI-T2 is simple and robust.

- Air-lock bulkhead: between the cockpit, service block, and the cargo hold, there is are air-locked double-sealed doors, which allows the troop compartment to be ventilated while retaining an atmosphere in the cockpit and service block. The crew may access the service block even when the troop compartment is ventilated or keep the cockpit isolated from everything should the service block be made accessible from the cargo hold. The doors to the front of the cargo hold on both sides of the craft also have similar double bulkheads.
- Air Scrubber system: A system that scrubs carbon dioxide from the air, converting it back into Oxygen and Carbon. This system operates automatically and utilizes a scrubbing filter system that must be replaced on a yearly basis.
- Atmosphere Controls: The atmosphere of the cargo hold is controlled. Should there be a need, the standard O2/Nitrogen atmosphere can be replaced with a number of exotic atmospheres. This can be done due to special requirements for cargo or truly alien species passengers.

## Propulsion

Making use of Ryu Heavy Industries' Fusion Plasma Drive technology, 6 of the RHI-T2-P4300 drives are located in articulating pods in each corner of the shuttle and mounted in the tail of the shuttle. In conjunction with the RHI-T2-P4311 Anti-Gravity System used to generate artificial gravity and provide gravimetric shielding, the fusion drives are responsible for providing lift and thrust for an literal brick of a design.

The four T2-P4300 engines within the articulating pods have a range of movement of 90 degrees (front 2 to the front and the rear 2 to the rear) from 90 degrees up to 90 degrees in their respective direction. At low speeds, the pods point down from 30 to 45 degrees to assist with maneuverability. At high speeds, the pods are kept parallel with the shuttle to reduce drag.

FTL propulsion is provided by a RHI-T2-P4301 CDD with [Mizu II Series Continuum Distortion Drives, Type 42 \(Ripple II\)](#) components. The unit's coils are located in the upper back of the Xuanwu.

## Shield Systems

RHI-T2 Xuanwu's RHI-T2-S4300 makes use of conformal electrostatic and gravimetric shielding for defense when located within an atmosphere and a backup to the Ripple II's CFS defensive when in vacuum.

## Weapons Systems

The RHI-T2 Xuanwu typically does not have any weapons, relying on escorts if carrying important individuals or cargo. Though the crane can be outfitted with the following weapons:

- 1 T7 chin weapon mount
- The forward side doors (2 in total) can be replaced with weapon emplacements, holding a max of T6 weaponry.
- Engineering hump has room for 8 Vertical Launch [Magathiel Mini-Missile Cells](#) (mini and small missiles only), at the expense of reserve fuel tanks.

## OOC Notes

[Demibear](#) created this article on 2022/01/17 02:31.

Approval Thread:  
<https://stararmy.com/roleplay-forum/threads/ryuk-xuanwu-transatmospheric-shuttle.71351/>

Products & Items Database	
Product Categories	small craft
Product Name	Xuanwu Class Trans-atmospheric Shuttle
Nomenclature	RHI-T2-1A
Manufacturer	<a href="#">Ryu Heavy Industries</a>
Year Released	<a href="#">YE 45</a>
Price (KS)	100,000.00 KS

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