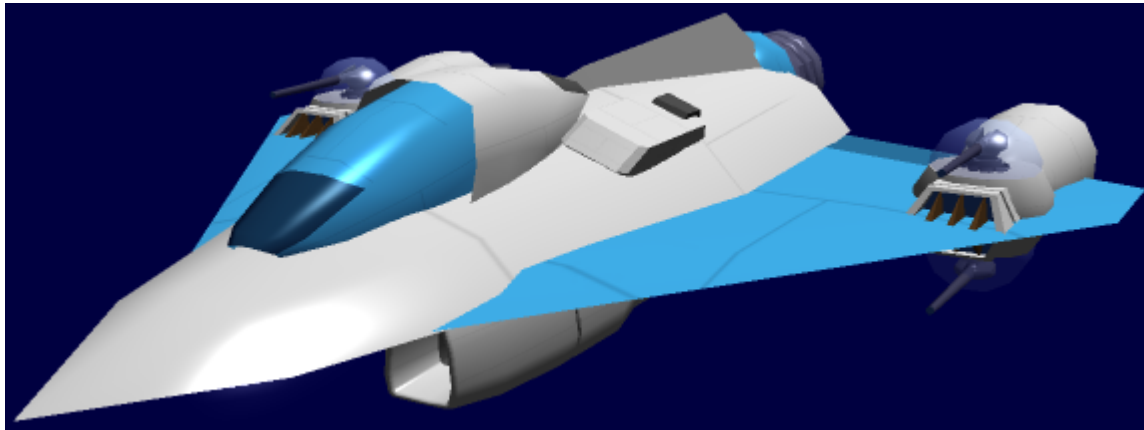


Tsubame Prototype Fighter



The Tsubame, meaning “Sparrow”, is a prototype aerospace fighter developed in [YE 32](#) by [Project THOUGHT](#). Designed by [Kage Yaichiro](#), the design incorporates two-and-a-half years of research and development into a maneuverable and compact proof-of-concept. It is among the first non-simulator uses of the [Type 32 Pilot Pod](#). Of the two initially built, one uses the more advanced [Project THOUGHT Frictionless Hybrid Joint](#), while the other tests the simpler mass production-geared [Project THOUGHT Simplified Joint](#). The fighter is controllable through tactile controls, but is designed to be piloted by thought alone.

History and Background

The concept for the Tsubame did not start in [YE 30](#) as an initial part of Project THOUGHT's goals, but was more a result of the [Star Army of Yamatai](#)'s later large-scale adoption of fighters. While still intended for THOUGHT Armor production, it was decided in development that the [Type 32 Pilot Pod](#) could be used as an armored cockpit and escape pod for fighters as well - which centralized the computer and life support systems in a small package. The prospect of upgrading the [Ke-V6-1D "Hayabusa" Starfighter](#) and [Ke-V8 "Kawarime" Fighter](#) lines of fighters and improving their survivability seemed like it was suddenly in reach, and two Tsubame prototype aerospace fighters were developed to test various technologies imported from the THOUGHT Armor development program.

The Tsubame tests two different (and potentially competing) engine designs, two new forms of weaponry, and the new cockpit. It is one of the few fighters that actually carries antimatter, and therefore tests a powerful weapon for its size class. Depending on the results of the test, some technology may be dropped or re-purposed, while others are enhanced and tested further or slated for use on other designs.

About the Tsubame

The Tsubame is a testbed for technologies which may be eventually implemented into the [Ke-V6-1D](#)

"Hayabusa" Starfighter and the Ke-V8 "Kawarime" Fighter, and is therefore capable of both aerial and space-borne operation. The fighter is surprisingly compact; due in part to the fact that the cockpit, life support systems, and the computer are so centralized and are therefore not needed in the actual fighter's design. The fighter itself does not even have a dedicated Integrated Electronics System, because it utilizes the one included in the Type 32 Pilot Pod (usually the Compact Integrated Electronics System (CIES)). This gives the fighter the ability to function as an extension of the pilot's body, and eliminates blind spots from the pilot's vision. It also gives the pilot the ability to make optimal use of the joint systems on which the engines and the craft's point defense are installed, permitting an agile and responsive craft with unique thrust vectoring abilities.

The Tsubame uses a Delta-wing configuration similar to the Kawarime, but with a sweep closer to that of the Hayabusa. Though the fighter has generic turrets giving it near-360-degree coverage, these are much smaller than the Hayabusa's and do less to disrupt the general shape of the frame by being connected to the side engine mounts. The engine mounts of each of the two Tsubame types look identical from the exterior, but each tests a different joint type for thrust vectoring. By using the Project THOUGHT Frictionless Hybrid Joint) and the Project THOUGHT Simplified Joint respectively, the unique engines of the prototypes are given the ability to quickly adjust direction for noteworthy thrust vectoring and course changes as well as the ability to be quickly swapped out due to their modular nature. The STL engines themselves are prototypes, both a cheap design which may find itself competing with the other in the future depending on how they evolve. The omission of Turbo Aether Plasma Drive technology from the civilian prototype was the main inspiration for the engine designs, though both have pros and cons which will be weighed in testing and by time.

It should be noted that while a prototype, the Tsubame carries live weapons. However, none of the weapons it carries are classified as Aether-based due to laws against civilian use. Due to its size prohibiting it from using large missiles like the larger fighters, it uses a dual-mode cannon and a pair of Augmentation Pod-based launchers with Ke-M2-W2908-MSAP and Ke-M2-W2908-SDMM/MFMA/ARMA warheads as micromissiles.

Statistical Information

Government:
Civilian (Unofficial
Yamatai Star
Empire
connections)
Organization:
Project THOUGHT
Type: Prototype



Aerospace Fighter Class: PT-X1-1A (Unit 1, Project THOUGHT Frictionless Hybrid Joint), PT-X1-1B (Unit 2, Project THOUGHT Simplified Joint) Designer: Kage Yaichiro Manufacturer: Project THOUGHT Production: Two Prototypes, any more will be constructed under an alternate nomenclature/configuration.

Crew: Seats one NH-22C Yamataian or NH-29 in Type 32 Pilot Pod. Maximum Capacity: 2 in Type 32 Pilot Pod in cases of emergency (very cramped, may affect performance).

Length: 5.2 meters(17.06 feet) Width: 4.1 meter(13.45 foot) wingspan Height: 1.3 meters(4.27 feet)

Air speed: 3,581 kph (2,225 mph) **STL:** 0.4c **FTL:** 3750c (~0.43 ly/h) **Hyperspace Fold** (*only possible with [Ke-T8-P3102 Hyperspace Fold Module](#)*): 262,980c (0.50 ly/m)

Range: Indefinite, but limited to [Type 32 Pilot Pod](#) life support and food/water stores and FTL speeds.
Lifespan: 30 years, extendable through minor updates through host ship or by replacement parts.

Damage Capacity

See [Damage Rating \(Version 3\)](#) for an explanation of the damage system.

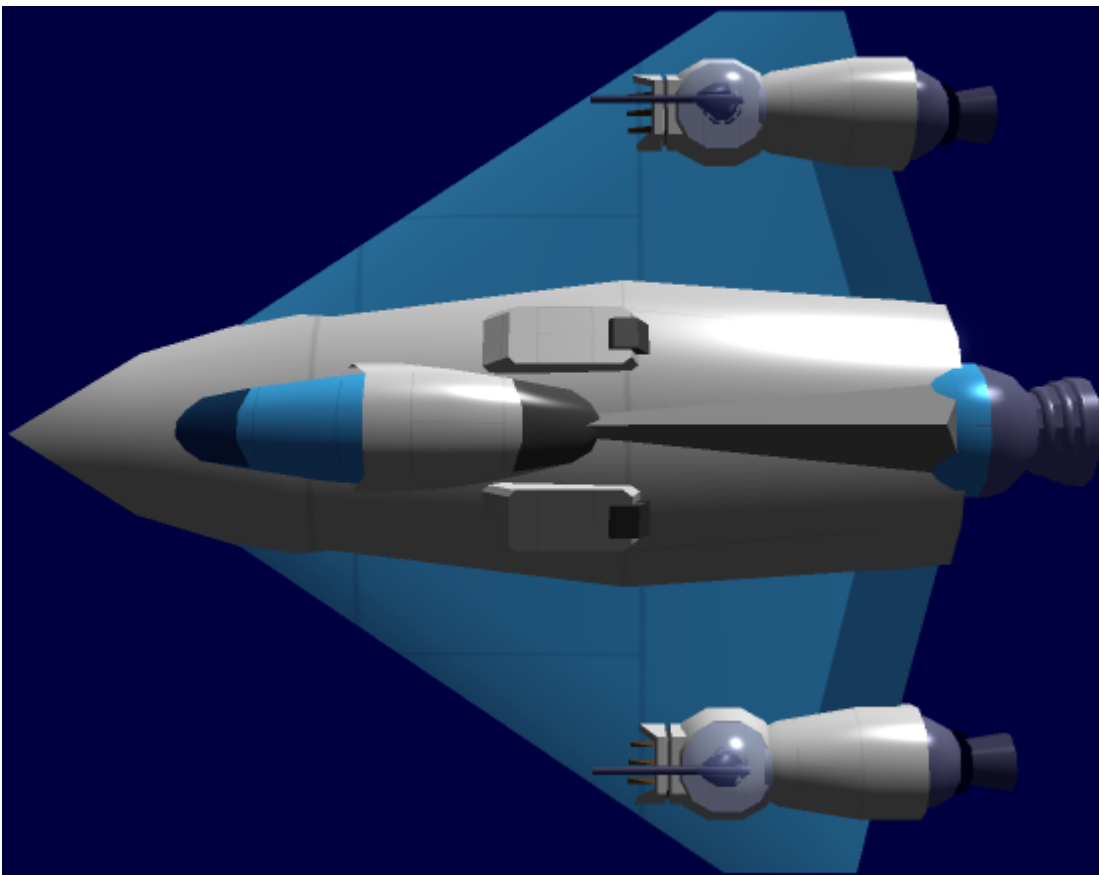
- Hull: Tier 7 (Light Mecha)
- Shields: Tier 7 (Barrier)

System Descriptions

The Tsubame comprises the following systems:

Armor and Hull Integrated Systems

The [Durandium Alloy](#) and [Yarvex](#) Armor and frame of the Tsubame is more geared toward prototyping than combat, though it affords adequate protection and heat tolerance. Layers of Durandium with opposing grains are layered not only to add strength, but to also counteract heat expansion. The wing sweep of the Yamataium-less airframe does not allow the craft to attain the same top airspeed as the [Ke-V8 "Kawarime" Fighter](#), and for safety's sake it



is conservatively rated to the Kwarime's cruising speed when in atmosphere.

Active Camouflage

The Tsubame is equipped with an optical tracking system and can use volumetrics to project what appears on one side of the craft onto the other to achieve visual invisibility. They can also be used to make holograms up to four meters away from the surface of the craft. Though the technology is roughly the same, the optical tracking data is also fed to the cockpit to allow its special software and systems to make optimal use of it. Without the cockpit, however, it appears to be the standard Yamataian technology...

Cockpit

The cockpit is a [Type 32 Pilot Pod](#) which contains the entirety of the life support and computer functionality of the fighter. It is the main reason the fighter is as compact as it is and only requires a single pilot. It is also able to act as an FTL-capable escape pod, and when ejected removes all computer components and data from the fighter to prevent capture by its assailant. When connected to the fighter, it is covered with dual covers which open when the pilot enters and exits, or blow off at the hinges to allow easy escape for the pod. These covers are 10cm thick Active Camouflage-enabled Durandium Armor which affords the pilot some supplemental protection over the Pilot Pod's own armor.

The cockpit is the key element to unlocking the fighter's capabilities, as it can directly interface with the brain of the pilot via its [THOUGHT Software Package](#) and allow the pilot to literally control the fighter as if it were their own body. The sensation of having a rigid body takes practice, but it allows one to be able to make optimal use of all of the fighter's functions and weaponry.

Matter/Antimatter Containment

As an aerospace fighter concept intended to store antimatter, the craft has two containment chambers for the storing of both matter and antimatter created by Aether conversion. Both are heavily shielded like the Aether reactor and have their own supplemental capacitors to allow for containment if the Aether Generator is knocked out. The containment fields and plates are also robust and designed to be able to compensate should they take some damage. Often they are used to generate positrons and electrons for the [Dual Mode Accelerator Cannon](#).

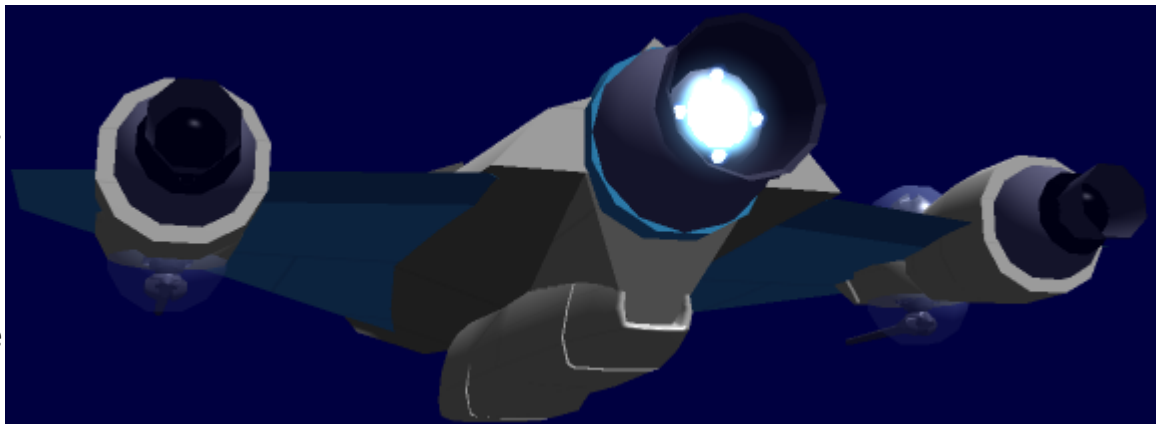
It should be noted that in space, it is common for the Tsubame to use the cannon almost exclusively in Antimatter Mode, and use the electrons in the Matter Containment chamber as a spare capacitor for the other systems such as the [Aether-assisted Laser Engine](#). In an emergency, it is possible to vent the Matter or Antimatter out from the bottoms of the wings or to simply eject either or both of the containment chambers.

Power System

The main power source of the craft, and a source of a significant amount of its mass, is an Aether Generator. It is roughly the same output as the one on the Hayabusa, to help handle the matter/antimatter conversion needs of the fighter as well as powering the various systems. This Aether Generator is compact, but more heavily shielded than other generators in an effort to reduce its appearance on scans as well as to make it able to survive more punishment in combat. The shielding is also sandwiched with [Yarvex](#) to prevent penetration into the core if the fighter's body is damaged. As the matter in the Matter/Antimatter Containment system consists of electrons, it is often used as a high density backup capacitor in emergencies.

Propulsion

The Tsubame utilizes two forms of slower-than-light propulsion for the purposes of testing as well as for safe travel in and out of atmosphere. There is also a CDD and an optional fold



option, the latter of which is already in mass production and is used for convenience. The three engines in the rear are mounted in either [Project THOUGHT Frictionless Hybrid Joints](#) in the case of Unit 1 or on [Project THOUGHT Simplified Joints](#) in the case of Unit 2. Both allow for removal and installation of different engines and types as needed for testing.

In their default configuration the two engines on the sides are [Aether-heated Jet Engines](#) while the one in the center is a [Aether-assisted Laser Engine](#). The former are usually preferred for use in the atmosphere, while the latter is typically restricted in output if in atmosphere to avoid exposing people to excessive brightness of the laser and is the main space-borne STL engine.

The Tsubame's [Continuum Distortion Drive](#) is compact, but only capable of 3750c because of the fact that it is made of civilian parts. As the CDD is not the component being tested for enhancement in the Tsubame, it is unlikely to be mass produced. The CDD is often used to aid in Vertical Take Off and Landing and can serve as a backup STL propulsion system. It is also the main STL propulsion system when at the upper edge of the atmosphere – where neither of the other two types of STL can function at high speed. When used for interstellar travel, it is preferable that the optional [Ke-T8-P3102 Hyperspace Fold Module](#) is equipped.

Propulsion is rounded out with a series of verniers and thruster clusters, but these are typically covered with shutters when not in use to prevent drag in the atmosphere as well as to protect them from damage. They are capable of allowing Vertical Take Off and Landing without CDD assistance in up to 1.5Gs of gravity.

Weapon Systems

- 1 [Dual Mode Accelerator Cannon](#) (Tier 9, Heavy Anti-Mecha Matter/Tier 10, Light Anti-Starship Antimatter), mounted on underside of craft
- 4 [Type 32 Light Point Defense Turrets](#) (Tier 4, Light Anti-Armor), mounted above and under wings
- 4 [Ke-M2-W2908 Offensive Augmentation Pods](#) or [Ke-M2-W2907 Countermeasure Augmentation Pods](#) (variable DR), retractable and paired off under covers on sides of fuselage

Optional Accessories

- 1 [Ke-T8-P3102 Hyperspace Fold Module](#), mounted on upper fuselage.

Due to the fact that the craft's mass is lower than but comparable to the T8 shuttle, it was decided to make the Tsubame compatible with the existing mass production fold system to allow travel across more vast distances if necessary. This is primarily for the purposes of allowing the craft to flee should it ever be in a dangerous situation, and to better facilitate travel on interstellar scales.

OOO Notes

Created by [Toshiro](#). [Approval Thread](#).

[Yuuki](#) updated this article for [Damage Rating \(Version 3\)](#) on 2020/03/07 04:08.

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