Space Shuttle Enterprise - Intrepid Museum

Space Shuttle Enterprise at the Intrepid Sea, Air & Space Museum

The Space Shuttle Enterprise, a prototype orbiter, holds a prominent place at the Intrepid Sea, Air & Space Museum in New York City. While never venturing into space itself, Enterprise played a crucial role in the development and success of the Space Shuttle program.

1. Historical Background and Significance:

* **Early Development:** Initially designated "Constitution," it was renamed "Enterprise" after a fan campaign spearheaded by *Star Trek* fans. Its construction began in 1974 as the first orbiter vehicle.
* **Approach and Landing Tests (ALT):** Enterprise was designed for atmospheric flight testing to validate the Shuttle's aerodynamic characteristics during approach and landing. It was carried aloft by a modified Boeing 747 and released to glide to a landing, demonstrating the feasibility of the Shuttle's unconventional design.
* **Pathfinder for the Shuttle Program:** The data collected from Enterprise's tests proved invaluable in refining the design and flight procedures for the operational orbiters that followed. It paved the way for Columbia, Challenger, Discovery, Atlantis, and Endeavour to reach orbit.

2. Technical Specifications:

* **Length:** 122.2 ft (37.2 m)
* **Wingspan:** 78.06 ft (23.79 m)
* **Height:** 56.58 ft (17.25 m)

* **Weight (empty):** 151,205 lbs (68,575 kg)

* **Thermal Protection System:** Enterprise originally had a lightweight, non-functional thermal protection system for the ALT program. It was later partially upgraded with actual tiles for vibration testing but never received a complete heat shield needed for orbital flight.

* **Engines:** Enterprise was not equipped with operational main engines for orbital flight. Dummy engines were used for testing.

3. Interesting Facts and Stories:

* **Carried on a 747:** The sight of Enterprise piggybacking on a 747 became an iconic image of the era, capturing the public's imagination.

* **Pilot & Crew:** Test pilots Fred Haise and Gordon Fullerton crewed the initial free-flight tests of Enterprise.

* **Never Intended for Space:** Despite being structurally similar to the operational orbiters, retrofitting Enterprise for spaceflight would have been more expensive than building a new orbiter. Its internal structure and systems weren't designed for the rigors of orbital flight and re-entry.

* **European Tour:** After the ALT program, Enterprise went on a tour of several European countries and Canada, further promoting the Space Shuttle program.

4. Role in History:

* **Proof of Concept:** Enterprise validated the innovative Shuttle design, proving that a reusable spacecraft capable of both orbiting the Earth and landing like an airplane was achievable.

* **Foundation for Space Exploration:** It laid the groundwork for the Space Shuttle program, which became a cornerstone of American space exploration for 30 years. The Shuttle enabled numerous

scientific missions, deployed and serviced the Hubble Space Telescope, and played a vital role in constructing the International Space Station.

5. Current Condition and Display Information:

* **Location:** Space Shuttle Enterprise is housed in a specially designed pavilion at the Intrepid Sea, Air & Space Museum on Pier 86 in Manhattan, New York City.
* **Display:** Enterprise is displayed with its payload bay doors open, allowing visitors to see inside. Exhibits detail its history and contribution to the Space Shuttle program. The Space Shuttle Enterprise exhibit features interactive displays, artifacts, and films about the shuttle program.
* **Previous Homes:** Before arriving at the Intrepid, Enterprise resided at the Smithsonian's National Air and Space Museum's Steven F. Udvar-Hazy Center near Dulles International Airport.