

THE MUSEUM OF FLIGHT

Fact Sheet – Full Fuselage Trainer (FFT)

The FFT is a full-scale mockup of the space shuttle orbiter — without the wings. It is used as a test bed for upgrades to the shuttle fleet and for astronaut training such as extra-vehicular activity (EVA) and emergency egress. Built at Johnson Space Center in the 1970s, it is the oldest mockup in the Space Vehicle Mockup Facility (SVMF). The FFT includes flight quality systems, such as a payload bay, lighting and closed circuit TV (CCTV).

About the Full Fuselage Trainer:

Astronauts found the FFT very useful in helping them become familiar with the locations of shuttle equipment and controls.

The trainer was also used to practice housekeeping procedures, such as meal preparation and trash management.

The horizontal position of the FFT allowed astronauts to practice emergency egress procedures after the shuttle lands.

The FFT includes the major parts of the orbiter: flight deck, mid-deck, and payload bay.

Although the simulator looks like the shuttle, it is made of plywood and is fixed in a horizontal position.

The Space Vehicle Mockup Facility (SVMF) is located inside Building 9 of Johnson Space Center in Houston, Texas. It houses several space shuttle mockups, including the FFT, as well as mockups of every major pressurized module on the International Space Station. It is primarily used for astronaut training and systems familiarization.

It typically takes at least a year for astronauts to train, and sometimes longer depending on the objectives of the mission. Each crew spent up to 100 hours training in the SVMF in more than 20 separate classes.

While many of the systems in the SVMF are flight-like, they do not contain what are generally known as simulators (as used to train pilots). Instead the FFT and other trainers in the SVMF are used for astronaut training in housekeeping, in-flight maintenance, stowage familiarity, ingress/egress, etc.

It took a versatile team comprising a variety of skills and experience to develop, maintain and operate the Space Vehicle Mockup Facility. Specialists such as designers, engineers, project managers, electronic technicians and shop technicians were used to create the accurate mockups to train astronauts, test systems and procedures and serve as gravity-bound simulations.

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