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## National Historic Landmarks

The NASA Marshall Space Flight Center announced on January 22, 1986, that the U.S. Department of the Interior's National Park Service had designated four Marshall Center facilities as National Historic Landmarks. On July 15, 1987, a fifth designation was announced.

The first four facilities are the Redstone Test Stand, Propulsion and Structural Test Facility, Saturn V Dynamic Test Stand, and Neutral Buoyancy Simulator. The Saturn V on display at the U.S. Space and Rocket Center represents the fifth designation.

### Historic Redstone Test Stand

The Redstone Test Stand was used during the 1950's in early development of the Redstone missile propulsion system. This was the test stand where the modified Redstone missile that launched the first American into space, Alan Shepard, was static tested as the last step before the flight occurred.

### Propulsion and Structural Test Facility

The Propulsion and Structural Test Facility, developed in support of Jupiter missile development, was modified and used for testing on the first clustered engine stage in the American space program, the S-IB stage of the Saturn I launch vehicle. It was also

used as the primary test stand for the development of the F-1 engine, the largest liquid rocket engine ever developed. The F-1 generated 1.5 million pounds of thrust.

### Neutral Buoyancy Simulator

The Neutral Buoyancy Simulator was designed to provide a simulated weightless environment needed to perform engineering tests in preparation for space missions. The extravehicular activity protocols for the *Skylab* rescue and Apollo Telescope Mount film retrieval were developed in the facility.

### The Saturn V Dynamic Test Stand

The Saturn V Dynamic Test Stand was used in 1966–67 for ground vibration testing of the Saturn V launch vehicle and the Apollo spacecraft. Completion of this program was the final step prior to the launch of Apollo 11—the first manned lunar landing mission. In 1972–73 the stand was used for tests involving the *Skylab* space station, and in 1978–79 for ground vibration testing of the complete Space Shuttle vehicle.

### Saturn V Display

The Saturn V on display at the U.S. Space and Rocket Center is the actual test rocket that was used in dynamic testing of the Saturn facilities at Marshall.



*The Historic Redstone Test Stand was the site where the rockets were tested for the Mercury-Redstone vehicle that boosted America's first astronaut, Alan B. Shepard, on a suborbital flight in 1961.*

The stages of the rocket were used to check out all the Saturn facilities at Huntsville. Although the rocket was not intended to be flown, it was a working vehicle that prepared the way for the Apollo expeditions to the Moon. Officials from the Department of the Interior referred to the vehicle as “a unique engineering masterpiece that formed the key link in the

chain that enabled Americans to travel to the Moon. The success of the Saturn V made possible the success of the American space program.” Marshall delivered the Saturn V at the U.S. Space and Rocket Center in 1969 after all three stages were taken from the Center's Dynamic Test Stand.