
NASA
STENNIS PROPULSION TESTING

- Since the 1960s, Stennis Space Center has grown into the **NATION'S LARGEST ROCKET ENGINE TEST SITE**, featuring facilities collectively valued at more than $2 billion and considered national assets.

- Since 1991, Stennis has been recognized by NASA as the **CENTER OF EXCELLENCE** for large propulsion system testing.

- Test facilities at Stennis include A, B and E complexes, where propulsion tests can be conducted on rocket stages, full-scale engines and engine components.

- The **A TEST COMPLEX** at Stennis includes two single-position, vertical-firing stands designated A-1 and A-2, both built in the 1960s.

- The **A-1 AND A-2 TEST STANDS** have been used to conduct full flight-stage and engine component tests, as well as single-engine tests at sea level and simulated altitudes.

- The A-1 stand at Stennis is designed for sea-level testing of engines. It is now testing RS-25 rocket engines, which will help power the core stage of NASA's new **SPACE LAUNCH SYSTEM**.

- The A-2 stand at Stennis can test rocket engines at simulated altitudes up to **60,000 FEET** to provide data on how they will operate as they head to space.

- The A Test Complex at Stennis also features the **A-3 STAND**, the newest test structure at the NASA site. The stand will allow operators to hot fire engines in simulated altitudes up to 100,000 feet.

- The **B TEST COMPLEX** at Stennis features a dual-position, vertical-firing test stand designated B-1/B-2, built in the 1960s. The B-1 side is designed for single-engine testing. The B-2 side is built to accommodate rocket stage testing.

- First stages of the Saturn V rocket were fired at the B-2 side from 1967 to 1970. The stages helped power **APOLLO PROGRAM** lunar missions, including the Apollo 11 flight that carried the first humans to the surface of the Moon.

- The core stage of NASA's Space Launch System rocket that will send the first woman and the first person of color to the Moon through the **ARTEMIS PROGRAM** and power eventual missions to Mars also was tested on the B-2 Test Stand during 2020-21. Testing of the stage's integrated systems culminated with the simultaneous firing of the its four RS-25 engines to produce 1.6 million pounds of combined thrust, just as during an actual launch.

- The **E TEST COMPLEX** at Stennis was constructed in the late 1980s and early 1990s. The three-stand complex includes seven separate test cells capable of supplying ultra high-pressure gases and cryogenic fluids, using a variety of rocket propellants.

- The E Test Complex offers particularly versatile options for testing engines and engine components, including those for **COMMERCIAL COMPANIES**, such as SpaceX, Blue Origin, Virgin Orbit, Launcher, Firehawk, Interstellar, Stratolaunch, and Relativity Space.

- Stennis test stands are linked by a seven-and-one-half-mile canal system used for transporting rocket stages and liquid propellants.

- Support facilities for Stennis test stands a test control center for each complex; data acquisition facilities; a large **HIGH-PRESSURE GAS FACILITY** to supply pressurized nitrogen, helium, hydrogen and air; an electrical generation plant that provides power for engine tests to avoid potential disruptions in the power grid; and a **HIGH-PRESSURE INDUSTRIAL WATER FACILITY** that features large diesel pumps and a 66-million gallon reservoir.