

NASA tests deep space rocket booster ahead of 2018 mission

June 28 2016



The second and final qualification motor test for the Space Launch System's booster on June 28, 2016, at Orbital ATK Propulsion Systems test facilities in Promontory, Utah

NASA on Tuesday performed its second and last test-fire of a rocket booster for the Space Launch System (SLS), a powerful engine that may one day launch astronauts to Mars, the US space agency said.

Fire and gray smoke billowed from the booster, which lay on the ground during the two-minute test fire in the remote hills of Utah at 11:05 am (1605 GMT).

NASA has described the SLS as the "world's most powerful rocket," and said the test aimed to see how the booster's propellant performed at the colder end of its temperature range.

"This final qualification test of the booster system shows real progress in the development of the Space Launch System," said William Gerstenmaier, associate administrator for the Human Exploration and Operations Mission Directorate at NASA.

The test took place at Orbital ATK Propulsion Systems' test facilities in Promontory, Utah, and marked the last firing of the booster before an actual test flight, set for late 2018.

That flight, known as Exploration Mission-1, will use SLS to send the unmanned NASA Orion spacecraft in the vicinity of the moon.

The first manned flight of Orion is planned for 2021, but may take place as late as 2023, NASA has said. The first trips to Mars are tentatively scheduled for the 2030s.



Guests watch the second and final test for the Space Launch System's booster, on June 28, 2016 in Promontory, Utah

NASA said Tuesday's test will provide "critical data to support booster qualification for flight."

During the test, engineers evaluated how the motor performed when the propellant was chilled to 40 degrees Fahrenheit (4.5 degrees Celsius).

The first full-scale test in March 2015 showed the booster performed adequately at 90 degrees Fahrenheit (32 C)—the highest end of its accepted propellant temperature range.

The SLS stands about 54 meters (yards) tall and burns 5.5 tons of propellant per second.

It is designed to be powerful enough to hoist 77 tons (70 metric tons) into space.

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