

NASA Tests Updated Rocket Motor For Shuttle

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NASA technicians said Friday they successfully tested an updated version of the rocket motor for the space shuttle's twin solid-fuel boosters at a Utah test facility. The new flight-support motor, designated FSM-12, burned approximately 123 seconds during the test, or the same amount of time each rocket motor on the reusable boosters must burn during an actual shuttle launch.

The static test - performed at the facilities of ATK Launch Systems in Promontory, Utah, near Salt Lake City - included 62 specific objectives and used 711 instrumentation channels to collect and evaluate the motor's performance, officials at Marshall Space Flight Center said in a statement. Technicians will publish the final test results later this year.

"Full-scale static testing continues to be a key element of our 'test before you fly' standard that we apply to our processes, material, hardware and design changes," said Jody Singer, manager of the Reusable Solid Rocket Motor Project, part of the Marshall's Space Shuttle Propulsion Office. "Testing such as this is important to ensure continued quality and performance."

The shuttle's reusable solid-fuel rocket motors remain the largest such motors ever flown, the only ones rated for human flight and the first designed for reuse. Each shuttle launch requires the two booster motors to lift the 4.5-million-pound vehicle off the ground.

During shuttle flights, the booster motors provide 80 percent of the

thrust for the first two minutes after liftoff. Each motor, which generates an average of 2.6 million pounds of thrust, is just over 126 feet long, 12 feet in diameter and is the primary component of the shuttle's twin solid rocket boosters.

The solid-fuel rockets help to take the shuttle to an altitude of 28 miles at a speed of 3,094 miles per hour, before separating and parachuting into the ocean to be retrieved, then refurbished and prepared for another flight.

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