

NASA set for new round of J-2X testing at Stennis Space Center

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NASA's progress toward a return to deep space missions continues with a new round of upcoming tests on the next-generation J-2X rocket engine, which will help power the agency's Space Launch System (SLS) to new destinations in the solar system.

Beginning this month, engineers will conduct a series of tests on the second J-2X development engine, designated number 10002, on the A-2 Test Stand at NASA's Stennis [Space Center](#) in Mississippi. Once the series is completed, the engine will be transferred to the A-1 Test Stand to undergo a series of gimbal, or pivot, tests for the first time.

"The upcoming test series is not only a critical step forward, but important to the Stennis test team, as well," said Gary Benton, manager of the J-2X test project at Stennis. "This test series will help us increase our knowledge of the J-2X and its performance capabilities. In addition, the series will help us maintain the high skill level of our team as we look ahead to continued J-2X testing and testing of the RS-25 engines that will be used to power the SLS first-stage."

The first objective of the testing is to verify and demonstrate the engine's capability. Data from what is known as hot-fire engine tests will be compared to the performance of the first engine. Engineers also will vary [liquid hydrogen](#) and [liquid oxygen](#) inlet pressures and subject the engine nozzle to higher temperatures than in previous tests to see what effect they have on performance.

NASA already has conducted successful tests on engine number 10001 and on the J-2X powerpack assembly. In total, 34 tests were conducted on the J-2X engine and powerpack, with the J-2X achieving a full flight-duration firing of 500 seconds in the eighth test, earlier than any [rocket engine](#) in U.S. history.

The engine is being designed and built by NASA and Pratt & Whitney Rocketdyne of Canoga Park, Calif., to power the upper stage of the 130 metric-ton (143-ton) version of the SLS rocket.

The SLS will launch NASA's Orion spacecraft and other payloads from the agency's Kennedy Space Center in Florida, providing an entirely new capability for human exploration beyond low-Earth orbit.

Provided by NASA

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