

# The J-2X: A powerful line up

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Credit: NASA/SSC

(Phys.org)—Two J-2X engines and a power pack, developed for NASA by Pratt & Whitney Rocketdyne, sit side-by-side at John C. Stennis Space Center in Mississippi as work continues on the Space Launch System.

[Engine](#) 10001, far left, has been removed from the A-2 test stand after

being hot-fire tested 21 times, for a total of 2,697 seconds. The engine is now undergoing a series of post-test inspections.

A J-2X powerpack, center, has been removed from test stand A-1 to receive additional instrumentation. So far, the powerpack has been hot-fire tested 10 times, for a total of 4,162 seconds. Once it goes back into the test stand at Stennis, the powerpack will be hot-fire tested three more times, for a total of 6,000 seconds among its 13 planned tests.

Meanwhile, assembly on the second J-2X engine, known as Engine 10002 and located to the far right, has begun in earnest, with engine completion scheduled for this November. Engine 10002 is about 15 percent complete.

The J-2X is a highly efficient and versatile advanced rocket engine with the ideal thrust and performance characteristics to power the upper stage of [NASA's Space](#) Launch System, a new heavy-lift launch vehicle capable of missions beyond low-Earth orbit. Fueled by liquid oxygen and liquid hydrogen, the J-2X builds on heritage designs but relies on nearly a half-century of NASA spaceflight experience and technological and manufacturing advances to deliver up to 294,000 pounds of thrust, powering exploration to new destinations in our solar system. The J-2X is the first new liquid oxygen and liquid hydrogen rocket engine developed in 40 years that will be rated to carry humans into space.

Provided by NASA

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