

NASA ready to test upgraded J-2X powerpack

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Stennis Space Center engineers and technicians watch as the J-2X powerpack is hoisted into place in the A-1 test stand Dec. 5. Credit: NASA/SSC

(PhysOrg.com) -- For engineers working on the J-2X engine program, installation of the upgraded J-2X powerpack on the A-1 Test Stand on Dec. 5 had to feel like a long-awaited holiday gift.

The powerpack consists of a gas generator and turbopumps and is a critical component for the new engine. It is responsible for pumping [liquid hydrogen](#) and [liquid oxygen](#) into the engine's main combustion chamber to produce the needed thrust capability. Arrival and installation of the next-generation engine component marked the culmination of more than two years of extensive modification work to prepare the A-1 stand for the critical test series. The major work effort began after

NASA engineers completed an initial series of tests on a heritage J-2 engine powerpack in mid-2008.



Stennis Space Center engineers and technicians install the J-2X powerpack into the A-1 test stand in preparation for testing Dec. 5. Credit: NASA/SSC

Data from that test series was used to upgrade the powerpack that will be used on the J-2X rocket engine being developed to carry humans deeper into space than ever before. The J-2X is being designed to provide 294,000 pounds of thrust, an increase from the 230,000-pound capability of the original J-2 engine used in the Apollo Program.

Testing of the upgraded J-2X powerpack is scheduled to begin in January 2012 at NASA's Stennis Space Center, in south Mississippi. The J-2X [engine](#) is being developed by Pratt & Whitney Rocketdyne for NASA's Marshall Space Flight Center in Huntsville, Ala. It will provide upper-stage power for NASA's new Space Launch System. The SLS will carry the Orion spacecraft, its crew, cargo, equipment and science experiments to [space](#) -- providing a safe, affordable and sustainable means of reaching the moon, asteroids and other destinations in the solar system.

Provided by JPL/NASA

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