NASA's new upper stage engine passes major test

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(PhysOrg.com) -- NASA conducted a successful 500-second test firing of the J-2X rocket engine on Wednesday, Nov. 9, marking another important step in development of an upper stage for the heavy-lift Space Launch System (SLS).

SLS will carry the Orion spacecraft, its crew, cargo, equipment and science experiments to destinations in deep space. SLS will be safe, affordable and sustainable to continue America's journey of discovery from the unique vantage point of space.

"The J-2X engine is critical to the development of the Space Launch System," Dan Dumbacher, NASA's deputy associate administrator for exploration systems development, said after the test at NASA's Stennis Space Center in Mississippi. "Today's test means NASA is moving closer to developing the rocket it needs if humans are to explore beyond low-Earth orbit."

Data from the test will be analyzed as operators prepare for additional engine firings. The J-2X and the RS-25D/E engines for the SLS core stage will be tested for flight certification at Stennis. Both engines use liquid hydrogen and liquid oxygen propellants. The core stage engines were developed originally for the space shuttle.

"The J-2X engine team and the SLS program as a whole are extremely happy that we accomplished a good, safe and successful test today," said Mike Kynard, Space Launch System Engines Element Manager at

NASA's Marshall Space Flight Center in Huntsville, Ala. "This engine test firing gives us critical data to move forward in the engine's development."

Stennis has tested engines that carried Americans to space in both the Apollo and Space Shuttle programs. The J-2X engine is being developed for Marshall by Pratt & Whitney Rocketdyne of Canoga Park, Calif.

"We look forward to adding to the legacy as we fulfill our responsibility to test engines that will power America's next launch vehicle," said Stennis Director Patrick Scheuermann.

Provided by JPL/NASA