



## News Releases

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### **NASA Awards Upper Stage Engine Contract for Ares Rockets**

WASHINGTON - NASA has signed a \$1.2 billion contract with Pratt and Whitney Rocketdyne Inc., of Canoga Park, Calif., for design, development, testing and evaluation of the J-2X engine that will power the upper stages of the Ares I and Ares V launch vehicles.

The contract includes ground and test flight engines. It continues work that began on June 2, 2006, under a preliminary letter contract with Pratt and Whitney Rocketdyne.

NASA awarded the cost-plus-award fee contract to Pratt and Whitney Rocketdyne on a sole-source basis, NASA determined that no other existing capability meets its architecture requirements and is able to be extended to future exploration missions to the moon and beyond.

The contract performance period extends through Dec. 31, 2012. Engines for operational missions will be purchased through a separate contract.

The J-2X is an evolved version of two historic predecessors: the powerful J-2 engine that propelled the Apollo-era Saturn IB and Saturn V rockets, and the J-2S, a simplified version of the J-2 that was developed and tested in the early 1970s. Pratt and Whitney Rocketdyne designed and developed both the J-2 and the J-2S and has been responsible for producing, refurbishing and improving them. The J-2X engine will incorporate significant upgrades to meet higher performance and reliability requirements for the Ares vehicles.

Ares I is an in-line, two-stage rocket that will transport the Orion crew exploration vehicle to low Earth orbit. Orion will accommodate as many as six astronauts. The first stage will consist of a single reusable solid propellant rocket booster similar to those used on the space shuttle, with an additional fifth segment. The second, or upper, stage will consist of a J-2X liquid oxygen- and liquid hydrogen-fueled main engine and a new upper stage fuel tank.

Ares V will enable NASA to launch a variety of science and exploration payloads, as well as key components needed to go to the moon and later to Mars. Ares V, a heavy lift launch vehicle, will use five RS-68 liquid oxygen- and liquid hydrogen-fueled engines mounted below a larger version of the space shuttle's external tank and two five-segment solid propellant rocket boosters for the first stage. The upper stage will use the same J-2X engine as the Ares I.

The J-2X upper stage engine is managed by NASA's Marshall Space Flight Center in Huntsville, Ala., for NASA's Constellation Program.

For information about NASA's Constellation Program, visit:

<http://www.nasa.gov/constellation>

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