Lockheed Martin's Atlas V Selected To Launch Lunar Reconnaissance Orbiter

NASA's Mission First Step in Return to the Moon

Lockheed Martin's Atlas V rocket has been selected by NASA to launch the Lunar Reconnaissance Orbiter mission in 2008 from Cape Canaveral, Fla. LRO represents NASA's first step toward returning humans to the surface of the moon. The mission will be launched using an Atlas V 401 configuration.

"This is the fifth time that NASA has selected the Atlas V to launch an important space exploration mission, and our team is extremely excited to play such a key role in carrying out our nation's plans for returning to the moon," said Jim Sponnick, Atlas program vice president for Lockheed Martin Space Systems Company.

The Atlas 401 configuration includes a single Common Core Booster powered by the RD-180 engine system, providing almost 1,000,000 lbs. of thrust at liftoff. The Atlas V 401 vehicle will also utilize a 4-meter fairing to protect the LRO spacecraft during the ascent through the earth's atmosphere. Once the boost phase of flight is complete, the Centaur upper stage will perform two engine burns to place LRO into a lunar transfer trajectory.

Atlas will launch LRO in the fall of 2008, along with a secondary payload called the Lunar CRater Observation and Sensing Satellite (LCROSS). Following delivery of LRO to its required lunar transfer orbit, the Centaur upper stage will perform a unique series of maneuvers to place LCROSS into a separate trajectory that will result in a subsequent lunar impact.

LRO will arrive at the moon three to five days after launch. From its mapping orbit at an altitude of 50 km above the surface, it will begin its one-year mission to gather data specifically targeted at preparing for future human exploration on the lunar surface.

Approximately three months after launch, the depleted Centaur upper stage will be guided to an impact near the lunar South Pole, and LCROSS will analyze the resulting plume to determine the chemical composition of the lunar surface material. LCROSS will impact the moon several minutes after Centaur, and the combined plume will be observed by other telescopes.

Atlas V has now been selected for five NASA exploration missions, two of which have already been launched successfully: Mars Reconnaissance Orbiter in August 2005 and Pluto New Horizons in January 2006. Atlas V will also launch the Solar Dynamics Observatory in 2008 and the Mars Science Laboratory in 2009.

The space agency awarded the LRO launch to Lockheed Martin under the terms of the NASA Launch Services contract signed in 2000. This agreement was designed to be the primary way for NASA to procure launch services on the Atlas vehicle through 2010. Atlas V vehicles have now achieved 100% mission success in eight flights. Atlas II, III, and V configurations have achieved 79 consecutive one-at-a-time launch successes since 1993.

Atlas boosters and Centaur upper stages are built by Lockheed Martin Space Systems Company at facilities in Denver, Colo.; Harlingen, Texas; and San Diego, Calif. Atlas launch operations are conducted at Cape Canaveral Air Force Station, Fla., and Vandenberg Air Force Base, Calif.

Lockheed Martin Space Systems Company, headquartered in Denver, Colo., is one of the major operating units of Lockheed Martin Corporation. Space Systems designs, develops, tests, manufactures and operates a variety of advanced technology systems for military, civil and commercial customers. Chief products include a full-range of space launch systems, ground systems, remote sensing and communications satellites for commercial and government customers, advanced space observatories and interplanetary spacecraft, fleet ballistic missiles and missile defense systems.

Headquartered in Bethesda, Md., Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2005 sales of $37.2 billion.

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