

Mars Science Laboratory Aeroshell Delivered To Launch Site

Lockheed Martin-Built Capsule Will Protect NASA's Curiosity Rover

DENVER, May 13, 2011 /PRNewswire/ -- NASA's Mars Science Laboratory (MSL) aeroshell and cruise stage were delivered to Kennedy Space Center, Fla. yesterday. Lockheed Martin (NYSE: LMT) built the [aeroshell](#) and NASA's Jet Propulsion Laboratory built the cruise stage. The aeroshell will encapsulate and protect the [Curiosity](#) rover during its deep space cruise to Mars, and from the intense heat and friction that will be generated as the system descends through the Martian atmosphere.

PHOTOS: <http://www.lockheedmartin.com/products/MarsScienceLaboratoryAeroshell>

The MSL backshell and the cruise stage departed from March Air Reserve Base, Calif. on an Air Force C-17 Globemaster III transport plane. The plane stopped at Buckley Air Force Base near Denver where the heatshield was loaded on board, and then continued to Kennedy Space Center. The Curiosity rover and its descent stage will be shipped to Florida in June.

Recently, Lockheed Martin integrated the MSL Entry Descent and Landing Instrument ([MEDLI](#)) onto the back of the heatshield. Provided by NASA's Langley and Ames Research Centers, MEDLI will collect temperature and pressure data during the spacecraft's descent through the Martian atmosphere.

"Designing and building such a large and complex aeroshell was truly a challenge, but together with our partners, we have produced what we believe to be an amazing capsule," said Rich Hund, MSL program manager at Lockheed Martin Space Systems Company. "We just finished the installation of the MEDLI package. Now we're looking forward to seeing the data it will return as that knowledge will help determine how we design future Martian entry systems."

In October 2008, the backshell, half of the large and sophisticated two-part aeroshell, was delivered to JPL in Pasadena, Calif. where it was integrated with other flight systems. The aeroshell/heatshield is the largest ever built for a planetary mission at 4.5 meters (nearly 15 feet) in diameter. In contrast, the aeroshells/heatshields of the Spirit and Opportunity Mars Exploration Rovers measured 8.5 feet and Apollo capsule heatshields measured just less than 13 feet.

The rover Curiosity is in testing at NASA's Jet Propulsion Laboratory, Pasadena, Calif., which manages the Mars Science Laboratory project for the NASA Science Mission Directorate, Washington. The rover and other parts of the Mars Science Laboratory are being delivered in May and June to NASA Kennedy Space Center in Florida for launch late this year. In August 2012, Curiosity will land on Mars for a two-year mission to examine whether conditions in the landing area have been favorable for microbial life and for preserving evidence about whether life has existed there.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 126,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation's 2010 sales from continuing operations were \$45.8 billion.

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