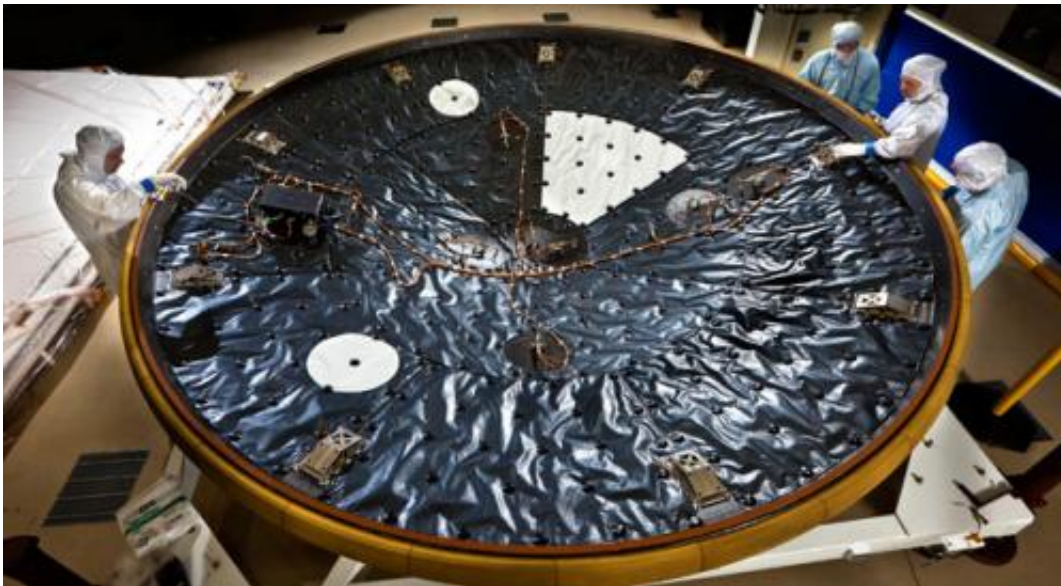


Mars mission components delivered to Florida

May 16 2011



The heat shield for NASA's Mars Science Laboratory is the largest ever built for a planetary mission. Image credit: NASA/JPL-Caltech/Lockheed Martin

(PhysOrg.com) -- An Air Force C-17 transport plane delivered the heat shield, back shell and cruise stage of the Mars Science Laboratory spacecraft to NASA's Kennedy Space Center, Fla., on May 12, 2011.

The [heat shield](#) and back shell together form the [aeroshell](#), which will encapsulate the mission's rover and descent stage. The cruise stage will perform critical communication and navigation functions during the flight from Earth to Mars. The mission will launch in late 2011 and

deliver its rover, Curiosity, to the surface of Mars in August 2012.

Lockheed Martin built the aeroshell and [NASA's](#) Jet Propulsion Laboratory built the cruise stage.

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.

Provided by JPL/NASA

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