

NASA's GRAIL Spacecraft, Built By Lockheed Martin, Successfully Launched For The Moon

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CAPE CANAVERAL, Fla., Sept. 10, 2011 /PRNewswire/ -- NASA's two GRAIL spacecraft, designed and built by Lockheed Martin (NYSE: LMT), launched this morning from Cape Canaveral Air Force Station, Fla. at 9:08 a.m. EDT aboard a Delta II Heavy rocket provided by United Launch Alliance.

Launch photo: http://www.lockheedmartin.com/news/press_releases/2011/0910_ss_grail.html

The GRAIL mission will use the twin robotic spacecraft to map the gravitational field of the moon in unprecedented detail. This data will be used to determine the structure of the lunar interior from crust to core and advance our understanding of the thermal evolution of the moon.

The first of the two nearly-identical spacecraft separated from the Delta II upper stage 1 hour and 21 minutes after launch at 10:28 a.m. ET and the second spacecraft separated eight minutes later. Communication signals from both spacecraft were obtained quickly by the Mission Operations team at Lockheed Martin Space Systems Company's facility near Denver. Six minutes after each separated, the spacecraft deployed their two solar arrays and started producing power.

"At first look, both of the GRAIL spacecraft are in great shape and are operating as predicted," said John Henk, GRAIL spacecraft program manager at Lockheed Martin Space Systems Company. "Since the beginning of this mission, it's been a pleasure to work with the mission's Principal Investigator Dr. Maria Zuber and the Jet Propulsion Laboratory. We're proud to be on the team that will bring a better understanding of Earth's nearest neighbor."

Even though the spacecraft duo were launched on the same day, they will arrive at the moon one day apart. The first orbiter, GRAIL-A arrives on Dec. 31, 2011 and GRAIL-B arrives 25 hours later on Jan. 1, 2012. At the start of the science phase, the spacecraft will be in a polar, nearly-circular orbit 34 miles (55 km) above the surface. The science phase of collecting gravity data will last 82-days.

"This morning's launch was very exciting and the ULA Delta II put us on a perfect trajectory," said Jim Crocker, vice president and general manager of Sensing and Exploration Systems at Lockheed Martin Space Systems Company. "Our team is now focused on performing a detailed series of checkouts and calibrations to characterize the performance of both spacecraft."

Lockheed Martin has designed, built and launched over 150 small satellites, 100 percent of which have met or exceeded their design life. Lockheed Martin's small satellite heritage demonstrates the capability to field highly innovative, reliable systems rapidly and at low cost.

NASA's Jet Propulsion Laboratory, Pasadena, Calif., manages the GRAIL mission. The Massachusetts Institute of Technology, Cambridge, is home to the mission's principal investigator, Maria Zuber. The GRAIL mission is part of the Discovery Program managed at NASA's Marshall Space Flight Center in Huntsville, Ala. Lockheed Martin Space Systems, Denver, built the spacecraft. Launch management for the mission is the responsibility of NASA's Launch Services Program at the Kennedy Space Center in Florida. JPL is a division of the California Institute of Technology in Pasadena.

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.

More information on the GRAIL mission can be found at:

- NASA GRAIL site: http://www.nasa.gov/mission_pages/grail/main/index.html
- GRAIL mission site: <http://grail.nasa.gov>
- Lockheed Martin GRAIL site: <http://www.lockheedmartin.com/grail>

- NASA GRAIL Press Kit: http://www.nasa.gov/pdf/582116main_GRAIL_launch_press_kit.pdf

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