

Lockheed Martin And NASA Place Two GRAIL Spacecraft Into Orbit Around The Moon

DENVER, Jan. 1, 2012 /PRNewswire/ -- Both of NASA's Gravity Recovery And Interior Laboratory (GRAIL) spacecraft were successfully inserted into orbit around the Earth's moon. The mission will analyze the internal structure and gravitational forces of the moon. Lockheed Martin [NYSE: LMT] built the twin robotic spacecraft and is conducting flight operations for NASA's Jet Propulsion Laboratory.

The first orbiter, GRAIL-A fired its main engine on Dec. 31 at 2:21 p.m. MT. The 38-minute burn slowed the spacecraft down and was captured into orbit by the moon's gravity. Today, at 3:05 p.m. MT (approximately 25 hours later), the GRAIL-B spacecraft arrived at the moon, fired its main engine for 38 minutes and changed its trajectory into a lunar orbit. Both spacecraft are now in elliptical polar orbits with an 11.5 hour period.

"I can't think of a better way to ring in the New Year than to place two spacecraft into orbit around the moon. Our team is celebrating today," said Stu Spath, GRAIL program manager at Lockheed Martin Space Systems Company. "We used the moon's gravity to capture the two GRAIL spacecraft into orbit, and now the science team is going to analyze that same gravitational field to an extraordinary level."

Over the next five weeks, the orbit of each spacecraft will be reduced to just less than two hours in length, and nearly-circular at 34 miles (55 km) above the surface.

In early March, the science phase of the mission will start. For nearly three months, the twin robotic spacecraft will 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 and other terrestrial planets.

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.

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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