Lockheed Martin Completes Assembly, Begins Environmental Testing Of NASA's Maven Spacecraft

DENVER, Feb. 8, 2013 /PRNewswire/ -- Lockheed Martin [NYSE: LMT] has completed the assembly of NASA's Mars Atmosphere and Volatile EvolutioN (MAVEN) spacecraft. The orbiter is now undergoing environmental testing at the company's Space Systems facilities, near Denver, Colo. MAVEN is the next mission to Mars and will be the first mission devoted to understanding the Martian upper atmosphere.

Photo and video of MAVEN: www.lockheedmartin.com/us/news/press-releases/2013/february/lockheed-martin-completes-assembly--begins-environmental-testing.html

During the environmental testing phase, the orbiter will undergo a variety of rigorous tests that simulate the extreme temperatures, vacuum and vibration the spacecraft will experience during the course of its mission. Currently, the spacecraft is in the company's Reverberant Acoustic Laboratory being prepared to undergo acoustics testing that simulates the maximum sound and vibration levels the spacecraft will experience during launch.

Following the acoustics test, MAVEN will be subjected to a barrage of additional tests, including: separation/deployment shock, sine vibration, electromagnetic interference/electromagnetic compatibility (EMI/EMC), and magnetics testing. The phase concludes with a thermal vacuum test where the spacecraft and its instruments are exposed to the vacuum and extreme hot and cold temperatures it will face in space.

"The assembly and integration of MAVEN has gone very smoothly and we're excited to test our work over the next six months," said Guy Beutelschies, MAVEN program manager at Lockheed Martin Space Systems Company. "Environmental testing is a crucial set of activities designed to ensure the spacecraft can operate in the extreme conditions of space."

"I'm very pleased with how our team has designed and built the spacecraft and science instruments that will make our measurements," said Bruce Jakosky, MAVEN principal investigator from the University of Colorado at Boulder's Laboratory for Atmospheric and Space Physics. "We've got an exciting science mission planned, and the environmental testing now is what will ensure that we are ready for launch and for the mission."

MAVEN is scheduled to ship from Lockheed Martin's facility to NASA's Kennedy Space Center in early August where it will undergo final preparations for launch.

Scheduled to launch in November 2013, MAVEN is a robotic exploration mission to understand the role that loss of atmospheric gas to space played in changing the Martian climate through time. It will investigate how much of the Martian atmosphere has been lost over time by measuring the current rate of escape to space and gathering enough information about the relevant processes to allow extrapolate backward in time.

"This phase of the program is particularly important in that it will provide us with a good assessment of the MAVEN system's capabilities under the simulated extremes of the space environment," said David Mitchell, MAVEN project manager at NASA's Goddard Space Flight Center in Greenbelt, Md. "Of significance, the spacecraft is entering system level test right on schedule, while maintaining robust cost and schedule reserves to deal with the technical or programmatic surprises that could occur during test or in the run to launch. Tracking on plan is critically important to being ready for launch later this year and the science that MAVEN will deliver one year later."

MAVEN's principal investigator is based at the University of Colorado at Boulder's Laboratory for Atmospheric and Space Physics. The university will provide science operations, science instruments and lead Education/Public Outreach. NASA's Goddard Space Flight Center manages the project and provides two of the science instruments for the mission. Lockheed Martin of Littleton, Colo., built the spacecraft and is responsible for mission operations. The University of California at Berkeley Space Sciences Laboratory provides science instruments for the mission. NASA's Jet Propulsion Laboratory, Pasadena, Calif., provides navigation support, the Deep Space Network and the Electra telecommunications relay hardware and operations.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 120,000 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 net sales for 2012 were $47.2 billion.

More information about MAVEN can be found at:
http://www.nasa.gov/maven
http://lasp.colorado.edu/home/maven/

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