Atlas V Gives Mars Reconnaissance Orbiter Smooth Send-Off Into Space

Lockheed Martin-built MRO Spacecraft and Atlas V Launch Vehicle Combine Successfully for NASA's Next Mission to Mars

The National Aeronautics and Space Administration (NASA), the Jet Propulsion Laboratory and Lockheed Martin are heading to Mars again -- this time armed with the most powerful suite of science instruments, cameras and unprecedented data relay capability yet sent to the red planet aboard NASA's Mars Reconnaissance Orbiter (MRO). In a spectacular morning launch Aug. 12 from Cape Canaveral Air Force Station, Fla., an Atlas V launch vehicle roared off the launch pad from Launch Complex 41 and provided the Mars Reconnaissance Orbiter a great boost on what will be a seven-month journey to Mars for arrival in March 2006.

Lockheed Martin Space Systems Company designed and built both the Mars Reconnaissance Orbiter and the Atlas V launch vehicle for NASA and the Jet Propulsion Laboratory. The mission, valued at about $720 million, includes the spacecraft development and science instruments, the Atlas V launch service, mission operations, science processing and relay support. NASA selected Lockheed Martin and International Launch Services for the Atlas V launch service as well as the design, assembly and integration of the spacecraft, launch support and mission operations.

"The Atlas team is thrilled to have successfully launched the MRO spacecraft to Mars for NASA," said Jim Sponnick, vice president of the Atlas Program for Lockheed Martin Space Systems Company. "The countdown was very smooth right up to liftoff at the opening of the launch window at 7:43 a.m., and the Atlas V performed very well. The MRO spacecraft was placed precisely into its earth escape trajectory to Mars, which allowed for rapid acquisition of the spacecraft and also enabled the conservation of spacecraft propellants for use later in the mission. The Atlas, NASA, and JPL teams have worked closely together over the last few years to make this launch and the beginning of the MRO journey a resounding success."

Although Atlas has done its job, the journey has just begun for the Mars Reconnaissance Orbiter's team of engineers and scientists.

"All of us are excited to be heading back to Mars, and I'm pleased to report that NASA's Mars Reconnaissance Orbiter is in perfect health and is operating under its own power," said Jim Crocker, vice president of Civil Space at Lockheed Martin Space Systems Company. "We acquired the signal from the spacecraft just over a minute after it separated from the launch vehicle, and shortly after that, telemetry confirmed that the solar arrays and the High Gain Antenna deployed right on schedule. The entire series of spacecraft events went like clockwork; it just doesn't get any better. We're extremely proud to be partnered with NASA on this next mission to Mars and we're excited to be on our way. I couldn't be more proud of the team of women and men whose hard work and tremendous dedication are helping make NASA's new vision for space exploration a reality."

Cheers erupted in the Atlas V Spaceflight Operations Control Center when the MRO spacecraft separated from the launch vehicle's Centaur upper stage 58 minutes after liftoff. Just over a minute later, engineers acquired the spacecraft signal with telemetry confirming MRO was in the proper earth escape trajectory. Ten minutes later, the solar arrays were deployed, extending MRO's wingspan to 13.6 meters (45 feet), so that the spacecraft could begin using its solar panels to generate power. Shortly afterwards, telemetry data confirmed that the spacecraft's large 3-meter-diameter (10-foot) high gain antenna had been successfully deployed.

During the next few weeks, engineers from Lockheed Martin, JPL and NASA will perform checkout and calibrations on the spacecraft, and make the first of several trajectory control maneuvers to maintain a course to Mars. Throughout MRO's seven-month cruise, the team will perform round the clock monitoring of the spacecraft, and will maintain command and control of the spacecraft during its entire mission.

The Mars Reconnaissance Orbiter will join the Mars Global Surveyor and 2001 Mars Odyssey spacecraft already in orbit around Mars, also designed and built by Lockheed Martin for NASA. MRO will continue NASA's scientific reconnaissance of the planet's surface at a scale nearly five times greater than any previous mission, provide global maps of the planet and its climate, look for future landing sites, and provide communications support and data relay for missions planned for 2007 and beyond.

Engineers at Lockheed Martin Space Systems Company near Denver, in concert with a team from the Jet Propulsion Laboratory, will continue to operate MRO from Lockheed Martin's Mission Support Area, providing the spaceflight operations throughout its multi-year mission. That same team is providing spaceflight operations for Mars Global Surveyor, 2001 Mars Odyssey, Stardust and the Spitzer Space Telescope.

Lockheed Martin Space Systems Company, headquartered near Denver, Colo., is one of the major operating units of Lockheed Martin Corporation. Space Systems Company designs, develops, tests and manufactures a variety of advanced technology systems for space and defense. Chief products include space launch systems, defense systems, interplanetary and science spacecraft, spacecraft for commercial and government customers, fleet ballistic missiles and missile defense systems.

Headquartered in Bethesda, Md., Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2004 sales of $35.5 billion.

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