

NASA's MAVEN Prepared for Trip to Mars

Transcript:

Here at Cape Canaveral Air Force Station in Florida, NASA is preparing to launch a spacecraft to study the upper atmosphere of the planet Mars. It's called MAVEN for Mars Atmosphere and Volatile Evolution.

As MAVEN prepares to explore the Red Planet's atmosphere, its long journey began in the Rocky Mountains. Assembly of the spacecraft began in August of 2012 at the Lockheed Martin facility in Littleton, Colo.

Once assembly was complete, a C-17 aircraft delivered MAVEN to the Kennedy Space Center in Florida, touching down at the Shuttle Landing Facility on August 2nd of this year.

The spacecraft then was carefully transported to the spaceport's Payload Hazardous Servicing Facility. Inside the facility's clean room, MAVEN began weeks of intense pre-launch checkouts to ensure all its complex systems were working properly. The instruments and systems on MAVEN were tested repeatedly and the all-important solar array wings also were unfolded and thoroughly checked out. While orbiting Mars, the arrays will capture the sun's energy and generate more than 1,200 watts of power for the spacecraft's systems.

On Aug. 26th, the United Launch Alliance barge, Delta Mariner, arrived at Port Canaveral, Fla., delivering the first and second stages of the Atlas V launch vehicle that will boost the MAVEN spacecraft into space for its 10-month trip to Mars.

The Atlas V then was towed to the Atlas Spaceflight Operations Center at the Cape. There, the rocket began processing prior to its trip to the launch pad.

In the weeks leading up to launch, the Atlas rocket's first and second stages were stacked at Cape Canaveral's Launch Pad 41 to await arrival of the MAVEN spacecraft. The Atlas V was fueled during a "wet dress rehearsal" on Oct. 29.

Before transporting the spacecraft to the launch pad, the processing team verified that MAVEN's crucial star-tracker guidance system was operating as designed and steering thrusters were fueled so the spacecraft can maneuver through space and arrive safely in orbit around Mars.

At 37 and a half feet long and a fully fueled weight of 5,400 pounds, MAVEN is about the size of a family sport utility vehicle.

Once final checks were complete at the Payload Hazardous Servicing Facility, the satellite was encapsulated in its payload fairing and prepared for the trip to the launch pad to meet up with the Atlas V vehicle. MAVEN then was placed atop the Atlas rocket to begin final preparations for liftoff and its 10-month journey to Mars.