



1
00:00:00,000 --> 00:00:07,300

Music

2
00:00:07,300 --> 00:00:12,240

Here at Cape Canaveral Air Force Station in Florida, NASA is preparing to launch

3
00:00:12,240 --> 00:00:16,780

a spacecraft to study the upper atmosphere of the planet Mars.

4
00:00:16,780 --> 00:00:22,630

It's called MAVEN for Mars Atmosphere and Volatile Evolution.

5
00:00:22,630 --> 00:00:27,710

As MAVEN prepares to explore the Red Planet's atmosphere, its long journey began

6
00:00:27,710 --> 00:00:32,930

in the Rocky Mountains. Assembly of the spacecraft began in August of 2012

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00:00:32,930 --> 00:00:36,500

at the Lockheed Martin facility in Littleton, Colo.

8
00:00:36,500 --> 00:00:42,140

Once assembly was complete, a C-17 aircraft delivered MAVEN to the Kennedy Space Center

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00:00:42,140 --> 00:00:48,050

in Florida, touching down at the Shuttle Landing Facility on August second of this year.

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00:00:48,050 --> 00:00:51,970

The spacecraft then was carefully transported to the spaceport's

11
00:00:51,970 --> 00:00:55,020

Payload Hazardous Servicing Facility.

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00:00:55,020 --> 00:01:00,460

Inside the facility's clean room, MAVEN began weeks of intense pre-launch checkouts

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00:01:00,460 --> 00:01:04,500

to ensure all its complex systems were working properly.

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00:01:04,500 --> 00:01:09,320

The instruments and systems on MAVEN were tested repeatedly and the all-important

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00:01:09,320 --> 00:01:14,150

solar array wings also were unfolded and thoroughly checked out.

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00:01:14,150 --> 00:01:19,590

While orbiting Mars, the arrays will capture the sun's energy and generate more than 1,200

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00:01:19,590 --> 00:01:23,530

watts of power for the spacecraft's systems.

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00:01:23,530 --> 00:01:29,530

On Aug. 26th, the United Launch Alliance barge, Delta Mariner, arrived at Port Canaveral, Fla.,

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00:01:29,530 --> 00:01:36,120

delivering the first and second stages of the Atlas V launch vehicle that will boost the MAVEN

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00:01:36,120 --> 00:01:41,690

spacecraft into space for its 10-month trip to Mars.

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00:01:41,690 --> 00:01:46,900

The Atlas V then was towed to the Atlas Spaceflight Operations Center at the Cape.

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00:01:46,900 --> 00:01:52,340

There, the rocket began processing prior to its trip to the launch pad.

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00:01:52,340 --> 00:01:57,270

In the weeks leading up to launch, the Atlas rocket's first and second stages were stacked at

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00:01:57,270 --> 00:02:03,290

Cape Canaveral's Launch Pad 41 to await arrival of the MAVEN spacecraft.

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00:02:03,290 --> 00:02:09,220

The Atlas V was fueled during a "wet dress rehearsal" on Oct. 29.

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00:02:09,220 --> 00:02:14,040

Before transporting the spacecraft to the launch pad, the processing team verified that

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00:02:14,040 --> 00:02:19,650

MAVEN's crucial star-tracker guidance system was operating as designed and steering

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00:02:19,650 --> 00:02:24,440

thrusters were fueled so the spacecraft can maneuver through space

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00:02:24,440 --> 00:02:28,050

and arrive safely in orbit around Mars.

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00:02:28,050 --> 00:02:34,440

At 37 and a half feet long and a fully fueled, weight of 5,400-pounds,

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00:02:34,440 --> 00:02:39,590

MAVEN is about the size of a family sport utility vehicle.

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00:02:39,590 --> 00:02:45,060

Once final checks were complete at the Payload Hazardous Servicing Facility,

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00:02:45,060 --> 00:02:50,480

the satellite was encapsulated in its payload faring and prepared for the trip to the launch pad

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00:02:50,480 --> 00:02:53,430

to meet up with the Atlas V vehicle.