00:00:01,310 --> 00:00:06,199
Music

00:00:06,200 --> 00:00:10,219
NASA's newest Mars rover, Curiosity, began its launch-site prep in

00:00:10,220 --> 00:00:14,220
Florida on May 12, 2011.

00:00:14,220 --> 00:00:16,780
That's when the first three elements of the spacecraft --

00:00:16,780 --> 00:00:20,740
officially known as the Mars Science Laboratory -- were delivered to Kennedy Space

00:00:20,739 --> 00:00:26,519
Center's Shuttle Landing Facility aboard an Air Force C-17 cargo plane.

00:00:26,519 --> 00:00:30,219
After the cruise stage, backshell and heat shield were unloaded and

00:00:30,219 --> 00:00:35,939
transported to the Payload Hazardous Servicing Facility, processing got under way.

00:00:35,939 --> 00:00:40,390
Technicians installed a solar array panel to the cruise stage and

00:00:40,390 --> 00:00:43,049
processed the spacecraft's backshell.

00:00:43,049 --> 00:00:46,759
The backshell carries the parachute and several components used during

00:00:46,759 --> 00:00:51,000
later stages of entry, descent and landing of the rover.

00:00:51,000 --> 00:00:54,869
The aeroshell -- comprising the backshell and the heat shield --

00:00:54,869 --> 00:00:58,149
was tested on a spin table before technicians used an overhead
crane to separate the two components.

On June 22, a cargo plane arrived at Kennedy carrying the rover and the spacecraft's rocket-powered descent stage.

The descent stage will fly the rover during the final moments before its landing on the Martian surface.

After transportation to the servicing facility, technicians removed the protective wrapping from the descent stage thrusters for documenting and inspection.

The rover itself was removed from its protective carrier and moved by crane to a workstand.

The rover's processing and testing began, including a series of rotation tests.

The wheels, as well as instrument mast and science boom, were put through a series of deployment tests.

Enclosed in a shipping cask, the spacecraft's power generating multi-mission.
radioisotope thermoelectric generator arrived at Kennedy June 30 and was moved to a storage facility where workers removed the cask.

A fit check of the generator was conducted in July.

Also in July, the rover's launch vehicle began to take shape. 

A United Launch Alliance Atlas V with four solid rocket boosters attached will loft the Mars Science Laboratory into space.

The Atlas V first stage and Centaur second stage were offloaded from the Delta Mariner transport ship at Port Canaveral, just a few miles from the launch site.

They were transported to Cape Canaveral Air Force Station and delivered to the Atlas Spaceflight Operations Center.

A crane was used to position the 106.5-foot-long stage inside the integration facility and lower it onto its launch platform.

Several days later, technicians began the installation of the four solid rocket motors using a lifting device to elevate them to an upright position.
An overhead crane lifted the Centaur second stage of the rocket and
technicians attached it to the lower stage.

In the payload processing facility, the dual sections of the Atlas V
payload fairing that will protect the spacecraft during launch and
ascent were prepared.

Technicians helped guide the rocket-powered descent stage over
Curiosity for integration.

Then they positioned the backshell as it was lowered over the rover
for encapsulation.

Technicians cleaned the fairing acoustic protection system to meet
NASA's planetary protection requirements.

The spacecraft's cruise stage was joined to the aeroshell containing Curiosity.

The cruise stage provides solar power, thrusters for navigation,
and heat exchangers to the rover during its flight from Earth to Mars.

The spacecraft was then enclosed between the two halves of the
payload fairing and placed on a transporter for the move to Space Launch Complex 41.

As dawn broke on November 3, the payload was ready to be lifted at Space Launch Complex 41's Vertical Integration Facility.

Once atop the rocket, the payload was attached, and the radioisotope thermoelectric generator was installed.

With its final Earth-bound journey completed, the rover Curiosity and its Atlas V launch vehicle were ready for launch.

Next stop - Mars!