

## Curiosity at Kennedy Space Center

My name is David Gruel and I'm the Assembly Test and Launch Operations Manager for the Mars Science Laboratory project. I'm coming to you from the clean room at the Kennedy Space Center where my team is currently conducting the final functional test of the MSL flight hardware destined for Mars.

Over here we have our cruise stage. The cruise stage is comprised of a solar array, several guidance sensors and a propellant system that basically gets the MSL spacecraft from Earth to Mars. Once we get to Mars the vehicle will have served its purpose and we jettison it and it burns up in the atmosphere before we actually make first contact with the atmosphere itself.

The back shell is the vehicle over here in white, which provides an interface to a large deceleration parachute.

And over here is the heat shield and the heat shield has the protective insulative tiles that keep Curiosity safe as all the heat is generated as we actually make our way through the Martian atmosphere.

Behind me is the descent stage. The descent stage is the jet pack that safely gets Curiosity down to the surface of Mars. Unlike Pathfinder and the twin rovers Spirit and Opportunity, which utilized air bags to make it down to the surface, Curiosity relies on the descent stage and its jet pack to actually make it down to the surface. Using retro rockets and a terminal descent radar system, this is what actually carries Curiosity safely down to the surface so that it can actually get its wheels down to the ground and perform its science.

So here's the star of the show, the Curiosity rover. Here Curiosity looks the same way that she'll look when she makes it to the surface of Mars and deploys all of her mechanisms.

Sticking up off the top deck of the rover is our remote science mast which contains all of our stereo imagery.

You can also see the six wheels which will actually propel Curiosity around the surface of Mars. As well as the robotic arm, which is sticking off the front of the vehicle with the turret which allows us to do science on rocks that are within the vicinity of the rover and return samples to science instruments that are contained on the body of the rover itself.

All total there's nine science instruments, which will return all sorts of exciting science from the surface of Mars.

Up next for us we're ready to start stacking the vehicle and from there we're looking forward to a great mission as Curiosity launches and lands on the surface of Mars next year.

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