

Mars rover Curiosity prepares for test drive (Update)

August 21 2012, by ROBERT JABLON



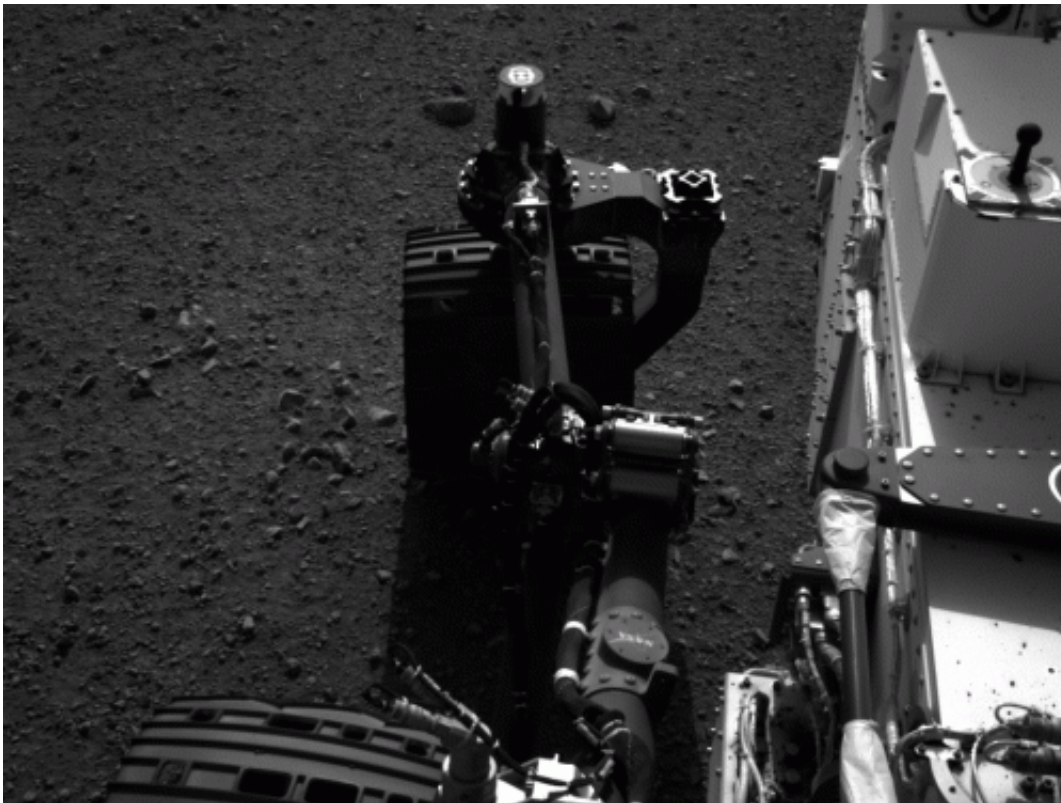
This full-resolution image from NASA's Curiosity shows the turret of tools at the end of the rover's extended robotic arm on Aug. 20, 2012. The Navigation Camera captured this view. Image credit: NASA/JPL-Caltech

Scientists on Tuesday prepared to send Curiosity on its first test drive over the billion-year-old rocks of Mars and said a busted wind sensor won't jeopardize its mission of determining whether life could exist

there.

Engineers at NASA's Jet Propulsion Laboratory in Pasadena turned four of the rover's six wheels in place this week in a successful "wheel wiggle" to test the steering for Wednesday's trek, mission manager Mike Watkins said.

"We are go for our first drive tomorrow," Watkins said.



(CLICK ENLARGE) This set of images shows the movement of the rear right wheel of NASA's Curiosity as rover drivers turned the wheels in place at the landing site on Mars. Engineers wiggled the wheels as a test of the rover's steering and anticipate embarking on Curiosity's first drive in the next couple of days. This image was taken by one of Curiosity's Navigation cameras on Aug. 21. Image credit: NASA/JPL-Caltech

The rover will move forward about 10 feet (3 meters), turn right, then back up and park slightly to the left of its old spot, Watkins said.

"You will definitely see tracks," he said.

The test drive is part of a health checkup the rover has been undergoing since arriving on Aug. 5. Eventually, the rover could roam hundreds of feet (meters) a day over the ancient crater where it landed.

Meanwhile, researchers discovered the damaged wind sensor while checking out instruments that Curiosity will use to check the Martian weather and soil.

This animation depicts movements of the robotic arm of [NASA's Mars rover Curiosity](#) as commanded for Aug. 20, 2012, the first time the arm was used on Mars. The animation is derived from visualization software that rover planners use in developing the commands sent to the rover.

The cause of the damage wasn't known, but one possibility is that pebbles thrown up by Curiosity's descent fell onto the sensor's delicate, exposed circuit boards and broke some wires, said Ashwin Vasavada, deputy project scientist for Curiosity.

A second sensor is operating and should do the job, but Vasavada said scientists may "have to work a little harder" to determine wind speed and direction, which are important factors that can determine when the rover is allowed to move.

"But we think we can work around that," he added.



This full-resolution image from NASA's Curiosity shows the elbow joint of the rover's extended robotic arm on Aug. 20, 2012. The Navigation Camera captured this view. Image credit: NASA/JPL-Caltech

Scientists also continued to test and calibrate Curiosity's 7-foot (2.1-meter)-long arm and its extensive tool kit — which includes a drill, a scoop, a spectrometer and a camera — in preparation for collecting its first soil samples and attempting to learn whether the Martian environment was favorable for microbial life.

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Citation: Mars rover Curiosity prepares for test drive (Update) (2012, August 21) retrieved 28 April 2024 from <https://phys.org/news/2012-08-mars-rover-curiosity-1st.html>

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