

Free Spirit: Rock Under the Belly

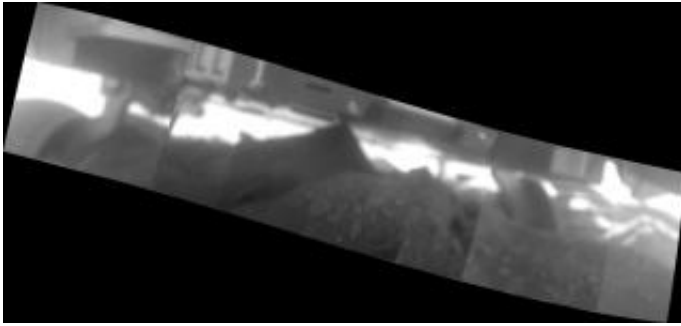
July 2 2009



With a slope of about 10 degrees and a pointy rock under the test rover's belly, this sandbox setup at NASA's Jet Propulsion Laboratory, Pasadena, Calif., is ready for engineers to use the test rover to assess possible moves for getting Mars rover Spirit out of a patch of loose Martian soil. The rock beneath the test rover was put in place on July 1, 2009, to resemble a rock underneath Spirit on Mars. Image credit: NASA/JPL-Caltech

Engineers placed a rock underneath the test rover at NASA's Jet Propulsion Laboratory, Pasadena, Calif., on July 1, 2009, to more closely simulate Spirit's predicament on Mars.

After becoming embedded in soft soil, Spirit used the microscopic imager at the end of its arm last month to look under its own belly for the first time. The resulting view confirmed a rock beneath the [rover](#) touching its underbelly. With a rock now placed similarly in the test sandbox, testing in the next few weeks will evaluate possible extraction moves for Spirit.



Credit: NASA/JPL/USGS

This panorama of images from the [Spirit rover](#), taken on Sol 1925 (June 2, 2009), is helping engineers assess the rover's current state and plan her extraction from the soft soil in the region now called "Troy." The images were taken by Spirit's microscopic imager instrument, mounted on the end of her [robotic arm](#).

This is the first time the microscopic imager has been used to assist in planning a rover's escape from an embedding event. The imager isn't intended to take these types of images--it is designed to focus on targets only 6 centimeters (2.4 inches) in front of its optics. As a result, the images in this mosaic are well out of focus. Yet despite the focus and the backlighting of the scene, the mosaic is still very useful for helping to assess the rover's state.

The mosaic, which is rotated to show the true orientation of the rover relative to the local terrain, shows the underside of the rover, the depth to which the wheels are embedded and the terrain itself in sufficient detail.

Provided by JPL/NASA ([news](#) : [web](#))

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