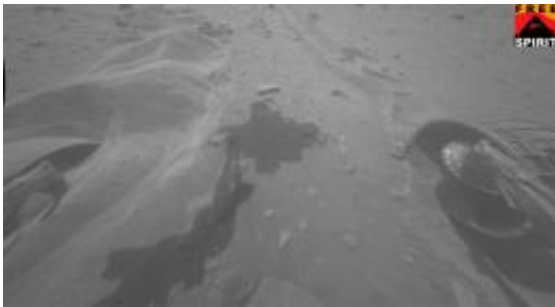


Free Spirit: Third Extrication Drive Ends With Wheel Stall

November 23 2009



This blink comparison aids evaluation of a drive by NASA's Mars Exploration Rover Spirit during the rover's 2,092nd Martian day, or sol (Nov. 21, 2009).

(PhysOrg.com) -- Spirit experienced a wheel stall with the right-rear wheel during the second step of a two-step drive on Sol 2092 (Saturday, Nov. 21). This is not the same wheel that stalled on Sol 1899 (May 6), the left-middle wheel.

On Sol 2092, the right-rear wheel did not experience a hard stall like what was seen on Sol 1899. Instead, it stalled because the wheel's progress fell behind the expected rotation rate. The rover had completed about 4 meters (13 feet) of commanded wheel spin before the stall terminated the drive. The center of the rover moved about 4 millimeters (0.2 inch) forward, 3 millimeters (0.1 inch) to the left and about 3 millimeters (0.1 inch) down. The rover suspension stayed within the tighter limits set for the drive, and there was only a fractional change in

rover tilt.

The plan ahead for today, Nov. 23, is to sequence a set of diagnostics to explore the right rear wheel stall. The diagnostics will include a [rotor](#) resistance test, a possible steering test, a small backward rotation of just the right-rear [wheel](#) and a short (about 1 meter, or 3 feet) forward commanded motion of the rover. Resumption of the extrication [driving](#) would be no sooner than Wednesday.

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

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