

Free Spirit: Next Step: Combinations of Basic Moves

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Mars Exploration Rover team members on July 21, 2009, tested how altering the order in which individual wheels turn for steering affects how those turns dig the wheels deeper into soft soil. From left: Alfonso Herrera, Vandana Verma, Bruce Banerdt.

As the Mars rover team uses testing at JPL to evaluate possible ways to drive Spirit out of loose soil on Mars, the team is finishing tests of individual "building block" maneuvers and is about to begin stringing some of those together.

The individual maneuvers, such as turns in place or crablike slant moves, may be combined to get Spirit's wheels away from the spots where they have sunk into the soil. Some of the tests in a JPL sandbox simulating Spirit's predicament have moved the test rover slightly -- on the order of a centimeter, or half an inch, of shift in position.

This position change was achieved after enough wheel turns to have driven the rover the equivalent of tens of meters or yards on firmer ground. The testing evaluates how each [maneuver](#) shifts the test rover's orientation and tilt.

A live webcast from the testing site at JPL, supplemented by simultaneous Internet chat to take public questions, is planned for Thursday, July 23. The live event will air on the "NASAJPL" channel available on Ustream Web TV at: www.ustream.tv/channel/nasajpl on Thursday, July 23, beginning at 3 p.m. PDT (6 p.m. EDT and 2200 UTC).

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

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