

NASA Dryden Hosts Radar Tests for Next Mars Landing

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This test of the radar system to be used during the August 2012 descent and landing of the NASA Mars rover Curiosity mounted an engineering test model of the radar system onto the nose of a helicopter. Image Credit: NASA

(PhysOrg.com) -- Engineers with NASA's Jet Propulsion Laboratory, Pasadena, Calif., are running diverse trials with a test version of the radar system that will enable NASA's Mars Science Laboratory mission to put the Curiosity rover onto the Martian surface in August 2012.

One set of tests conducted over a desert lakebed at NASA's Dryden Flight Research Center, Edwards, Calif., in May 2010 used flights with a helicopter simulating specific descent paths anticipated for Martian sites.

During the final stage of descent, NASA's [Mars](#) Science Laboratory mission will use a "sky crane" maneuver to lower Curiosity on a bridle from the mission's rocket-powered descent stage. The descent stage will

carry Curiosity's flight radar.

The testing at Dryden included lowering a rover mockup on a tether from the helicopter to assess how the sky crane maneuver will affect the radar's descent-speed determinations by the radar. The helicopter carried the test radar on a special nose-mounted gimbal.

Helicopter-flown testing has also been conducted at other desert locations for experience in an assortment of terrains. Later in 2010, the team plans to test the higher-altitude, higher-velocity part of Curiosity's radar-aided [descent](#) by flying the test radar on dives by an F/A-18 jet from Dryden.

Provided by JPL/NASA

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