

Hawaii skies stand in for Mars atmosphere in NASA gear test (Update)

8 June 2015, by Audrey Mcavoy

NASA is using the skies around the Hawaiian island of Kauai to test new technology that it wants to use for landing larger spacecraft—and eventually astronauts—on Mars.

A giant balloon began lifting the test vehicle high into the atmosphere Monday in preparation for releasing it back to Earth.

The test will investigate technology designed to slow down a large landing vehicle as it falls through the atmosphere at supersonic speeds. The descent will start 34 miles above the Earth's surface, where the environment is similar to Mars' thin atmosphere.

The technology includes a doughnut-shaped ring that's expected to inflate and slow down the flying saucer-shaped landing vehicle. A giant parachute is then expected to slow the descent further. This parachute is twice as big as the one that carried the Curiosity rover to Mars in 2012.

The technology being tested won't be used on missions anytime soon. NASA may decide not to use the technology if it fails the test.

NASA has said it wants to send astronauts to Mars in the 2030s.

The tube around the saucer inflated as planned during a similar test off Kauai last year. The vehicle decelerated from Mach 4.3—more than four times the speed of sound—to Mach 2. But the giant parachute didn't inflate. NASA says one of the main goals this time will be to test a redesigned parachute.

The supersonic parachute is 100 feet in diameter. It's so big it won't fit in the wind tunnels NASA typically uses to test parachutes.

The agency has been using the same basic parachute design to slow vehicles upon

approaching Mars since twin Viking landers touched down on the planet in 1976.

The landing vehicle is being carried 23 miles into the atmosphere by the giant balloon. From there, a booster rocket will lift it up to 34 miles.

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