NASA's next generation robotic lander gets sideways during test (w/ video)

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(PhysOrg.com) -- During a recent test at NASA's Marshall Space Flight Center in Huntsville, Ala., the robotic lander prototype, known as Mighty Eagle, performed a hover test flying up to three feet and then translated, or moved itself sideways, to perform a controlled, safe landing 13 feet from the launch pad. This is a complex maneuver for the lander to perform accurately since a robotic lander may need to right itself autonomously when it comes in for landing on an airless body or planet with no atmosphere. The robotic lander team cancels out the Earth's gravity, which is six times the gravity a vehicle will experience on the moon, simulating a lunar environment by using a gravity cancelling thruster during test.

To initiate a test, the lander receives a command to activate its onboard thrusters and then follows a pre-programmed flight profile to carry it to a controlled landing. This test demonstrated the robotic lander prototype's capability to autonomously translate sideways and then land while staying under control, and soon will be used to checkout landing control algorithms for the next generation of lander missions to the moon or other airless planetary bodies.

The Robotic Lander Development Project is a team of industry, government and not-for-profit collaborators, including the Marshall Center, Johns Hopkins University Applied Physics Laboratory in Laurel, Md., and the Von Braun Center for Science and Innovation in Huntsville. This team is designing and building the next generation of robotic

landers that can carry a broad range of science payloads and devices, including geophysical measurement instruments, volatile measurement instruments or possibly lunar sample returns.

More information: For more information about NASA's Robotic Lunar Lander Development Project, visit: www.nasa.gov/mission_pages/lun … t/robotic/index.html

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