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LARGE BALLOON TO LAUNCH LANGLEY PARACHUTE TEST

A high-altitude experiment to study parachute designs and techniques for possible use in the proposed Voyager program will be conducted by NASA no earlier than July 18.

The test will be the second of five balloon-launched flights to study the characteristics of a variety of parachutes and to determine their effectiveness as decelerators in soft-landing unmanned instrumented capsules on Mars.

Voyager is the proposed program to explore the planets and possibly land a spacecraft on Mars. The launch will take place at Walker Air Force Base, New Mexico, and the experiment will be conducted after the NASA flight unit arrives over the White Sands Missile Range and is separated from the balloon system.

A disc-shaped flight unit will be carried by the balloon system to an altitude of about 130,000 feet - where the thin atmosphere compares with that of Mars.

A ground command will trigger release of the experimental flight unit from the balloon. A few seconds later, eight rocket engines in the flight unit will propel it upward into an arching trajectory to a speed of about 1,100 miles an hour.

At an altitude of 140,000 feet, a 65-foot diameter disc-gap-band parachute will be deployed and a 500-pound payload will be released from the flight unit and descend to Earth beneath the open parachute.

The flight is planned so that conditions at parachute deployment combine to make the test environment closely correspond to that expected in the rarefied atmosphere of Mars.

The parachute-payload combination and the disc-shaped

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ONE-MAN POGO FLYING DEVICE STUDIED IN LUNAR LANDING RESEARCH FACILITY

A one-man flying device called a Pogo vehicle has been tested at Langley Research Center to study its effectiveness in operation in the relatively slight gravitational environment of the moon.

The device, so named because of its physical resemblance to a pogo stick - although it does not bounce up and down - was subjected to 30 simulated flights during June at Langley's Lunar Landing Research Facility.

Primary object of the manned flights, each of which lasted about a minute, was to determine how the control features of the vehicle may differ in the gravitational pull of the moon as compared with that of Earth.

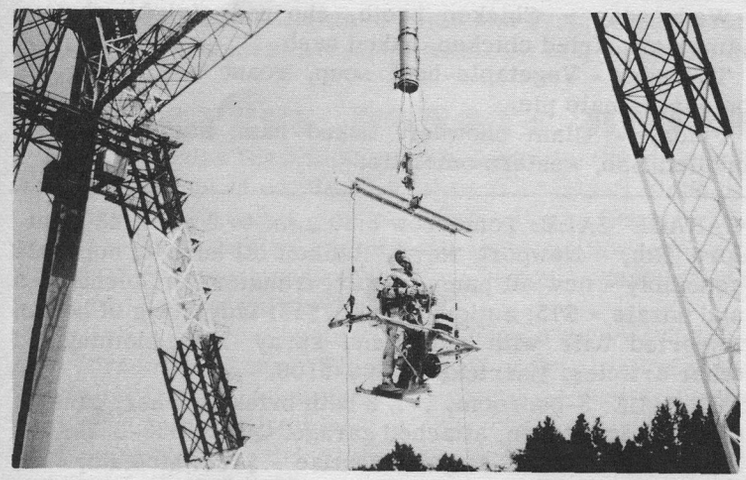
The moon has a gravitational pull only one-sixth that of Earth, and the LLRF is designed to simulate the lunar environment.

The three-phase research program included flights with the operator in ordinary dress to learn how the vehicle can be controlled by a man wearing no space equipment. These were followed by progressively more complex tests with a man in a pressurized soft spacesuit, and then by flights in a pressurized hard suit.

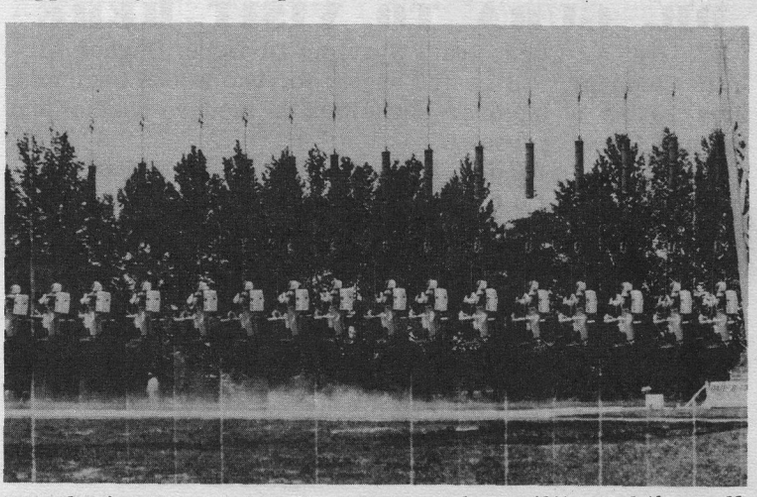
Pogo's propulsion system utilizing hydrogen peroxide was modified so it had one-sixth the thrust of its terrestrial configuration. Maximum flight time under normal Earth conditions was 20 seconds, but engineers tripled the time to a minute for the Langley tests.

The lightweight Pogo can move rapidly and may prove to be a practical auxiliary vehicle for lunar surface travel.

It was built by the Bell Aerosystems Co., Niagara Falls, N.Y., and was tested for the Marshall Space Flight Center. The space suits used in the flights were developed and supplied by Manned Spacecraft Center.



Langley Research Center is studying the concept of a one-man flying device for possible lunar operations. The use of these flying devices will enable the lunar explorer to extend his radius of exploration. The program utilizes



Langley's Lunar Landing Research Facility and the Bell Aerosystems Company's "POGO" vehicle appropriately modified for lunar gravity simulation. Operating the device in the sequence photo (left) is Lee H. Person, Center pilot.