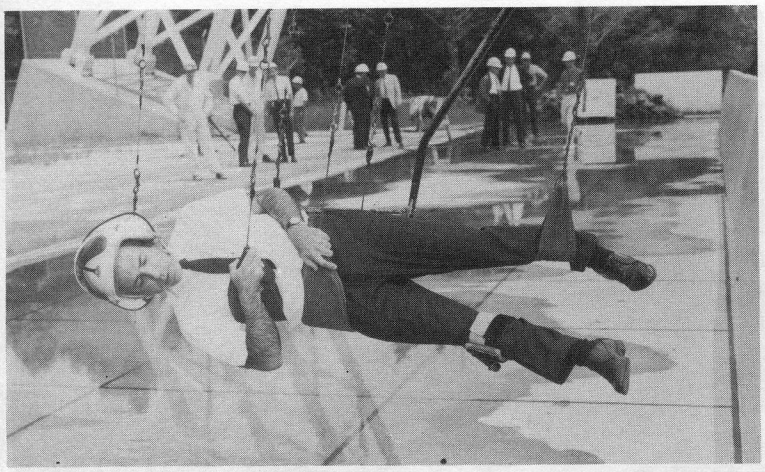
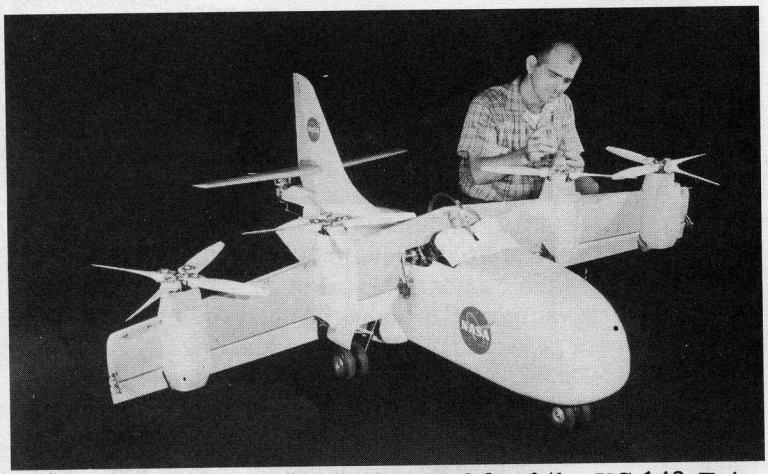
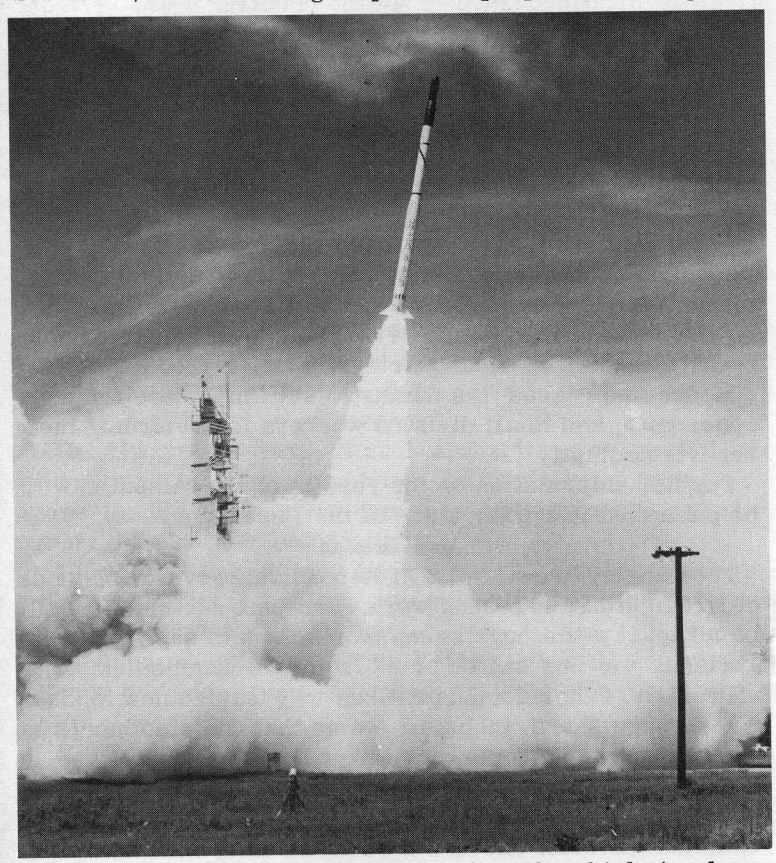


Director E. M. Cortright on Lunar Walker



A free-flying one-ninth scale model of the XC-142 Tri-Service V/STOL tiltwing airplane is prepared for flight.



Scout was the first all-solid fueled launch vehicle to place a satellite in orbit.

LANGLEY PIONEERS NASA PROGRAMS

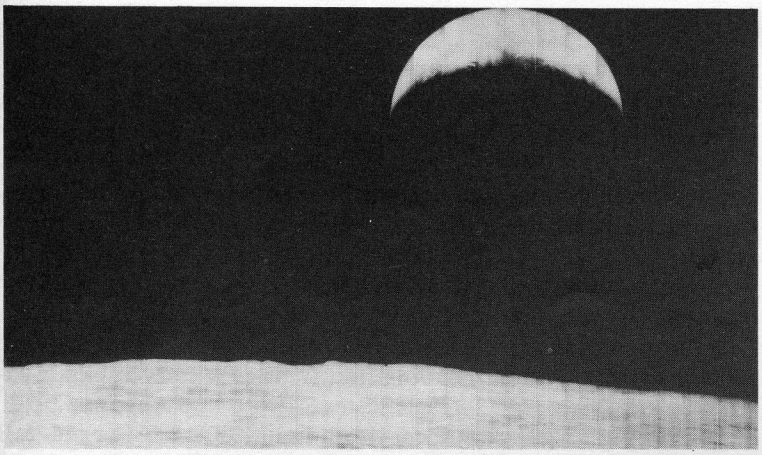
When the National Aeronautics and Space Administration officially came into being 15 years ago on October 1, 1958, the Langley Research Center, which had often been called ''the cradle of aviation in America'' became known as the ''birthplace of the space program.'' Project Mercury, the first United States manned space flight project, had its beginning at Langley. The Center provided a nucleus for the Space Task Group which operated at Langley from 1958 until 1962. During this time the first three successful space flights of Alan Shepard, Virgil Grissom and John Glenn were made.

Astronaut Alan B. Shepard was picked up by a U.S. Marine helicopter recovery team following his successful sub-orbital flight on May 5, 1961.

Other milestones in space in which Langley participated included research in support of the successful Gemini and Apollo programs; the development of inflatable spacecraft which made possible the successful Echo-type passive communications satellites, and the smaller air-density - drag-measurement Explorer satellites; the development of the versatile and relatively inexpensive Scout, first all-solid fueled launch vehicle to place a satellite in orbit; and the management of major space flight projects such as the highly successful Lunar Orbiter, which provided virtually total photographic reconnaissance of the moon at resolutions down to 3 feet in selected locations, and thus led to the identification of the landing sites for Apollo.

The Center supported Apollo extensively through the use of unique simulators and specialized laboratories. These facilities made it possible for Langley scientists and research pilots to duplicate some of the conditions of space and to develop techniques for such events as lunar landing, walking on the moon, other extravehicular activity, rendezvous and docking in lunar orbit, reentry, and earth landing. Astronauts who landed on the moon trained for their missions on Langley's Lunar Landing Research Facility.

Research by Langley scientists in the early 60's is credited with proving the feasibility of the lunar orbit rendezvous mode in accomplishing the manned moon landings.



Lunar Orbiter photographs the Moon and Earth

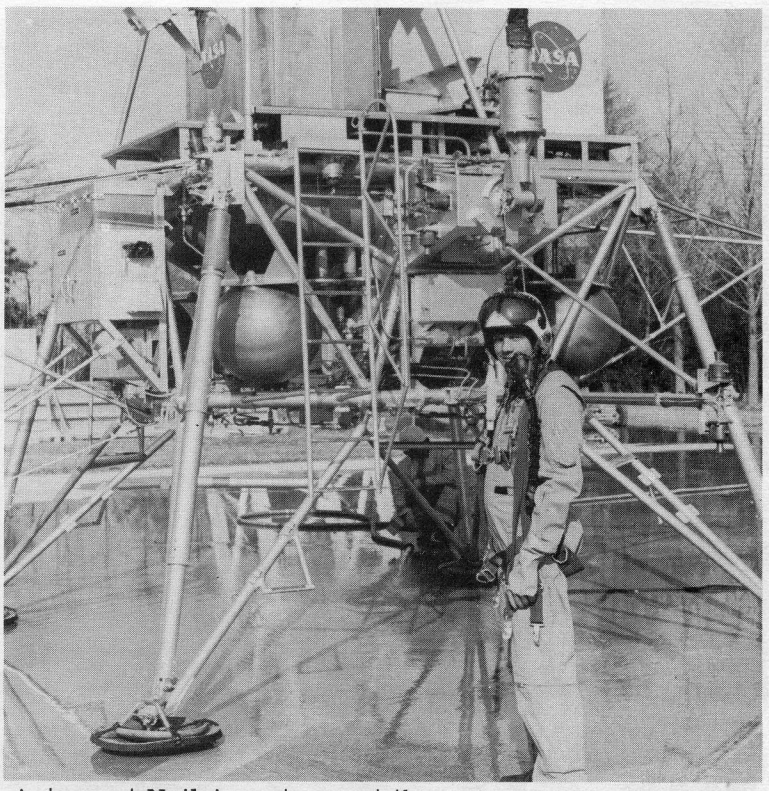
Other space research conducted by Langley include: extensive studies of manned orbiting research laboratories; the development of various reentry vehicle concepts which some day may be adaptable to space shuttle service between an orbiting laboratory and a landing area on earth; investigations of the problems of reentry heating in the earth's atmosphere upon return of a vehicle from a planetary mission; meteoroid measurements leading to the development of protective techniques; vacuum effects in space; development of radiation resistant plastics and other materials; investigation of decelerator devices which may be used in planetary explorations of the future; the development of instrumentation techniques which are required by operations in the space environment; experiments in electric propulsion and solar physics; studies of the dynamics of large launch vehicles; and radio attenuation measurements to improve space communications.

One of the major programs planned for this decade is Project Viking, which is designed to send dual scientific payloads both to orbit and to land on the planet Mars in 1976. Langley has been assigned overall project management and has direct responsibility for developing the lander portion of the system.

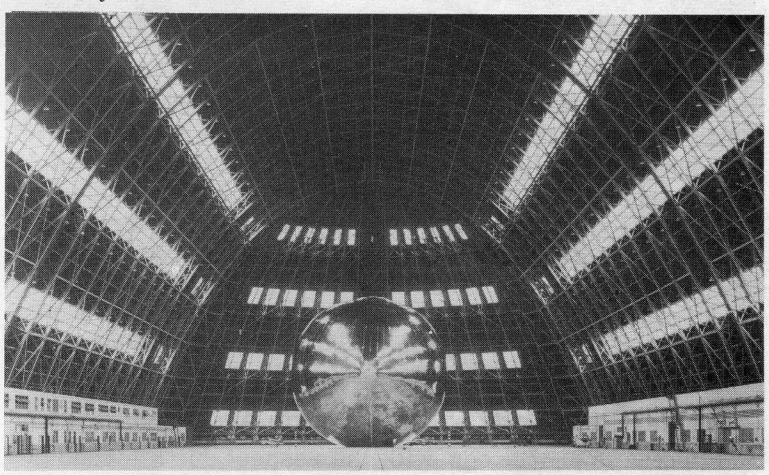
In addition to conducting extensive space related research, Langley continues to add to its long and successful record in preserving the role of the United States as a leader in civil and military aeronautical technology.

Current aeronautical research includes investigations of advanced concepts throughout the entire speed range: helicopters; vertical and short takeoff (VTOL/STOL) aircraft; supersonic; and hypersonic research vehicles and their propulsion systems. V/STOL aircraft have been a subject of experimentation at Langley since the late 40's. This research has provided a technological foundation for the development of vehicles combining vertical or short takeoff and landing capability with the good performance and handling qualities of conventional airplane in cruising flight.

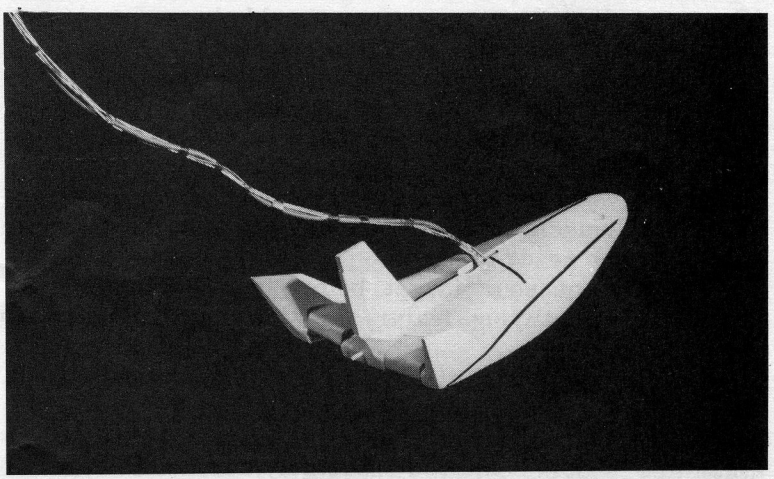
Considerable effort continues to be applied to subsonic aircraft with particular reference to the operating problems of transports, and the development and practical application of unique aircraft concepts such as the supercritical wing, an airfoil design which offers promise of substantially improving the performance of future commercial and military aircraft. Langley also gives considerable attention to the study of the characteristics of the sonic boom and to research concerned with the allevation of aircraft noise.



Astronaut Neil Armstrong at the Lunar Landing Research Facility.



Echo, which was probably seen by more people around the world than any other man-made satellite, is shown here during ground inflation tests.



A model of the HL-10 lifting-body type reentry vehicle is shown being studies in free flight in the Full Scale Tunnel.