

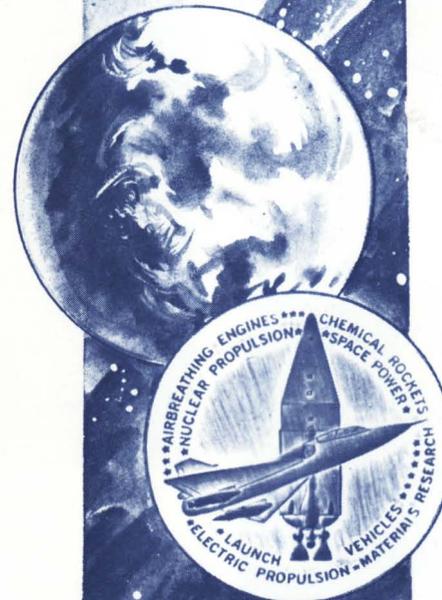
PLUM BROOK STATION

Plum Brook Station is an important part of the National Aeronautics and Space Administration, Lewis Research Center, which is celebrating its 30th anniversary this year. Lewis, located in Cleveland, began as the Aircraft Engine Research Laboratory of the National Advisory Committee for Aeronautics. Today it specializes in research and development of propulsion systems for both aircraft and space vehicles and in electric power generation.

Ground was broken for Plum Brook Station back in 1956 with construction of the 60-megawatt nuclear research reactor facility. Since that time it has grown to encompass 8,000 acres of what was once an Army Ordnance munitions facility during World War II.

Today Plum Brook Station is valued in excess of \$114 million with 500 of the total 3,900 Lewis employees working there. Installations include unique facilities for testing rocket engines, launch vehicle systems, engine components, high energy propellants and full scale spacecraft, both conventional and nuclear powered.

The test facilities at Plum Brook have been instrumental in many Lewis successes. Tests in several facilities helped develop the Centaur upper stage rocket used to successfully launch Surveyor, Mariner, Orbiting Astronomical Observatories and other spacecraft. Today the Spacecraft Propulsion Research Facility is being used to improve Centaur's capabilities. The Space Power Facility, opened in late 1969 has been used in the development of advanced space electric power generation systems and testing of the Skylab shroud which will protect this country's first manned space station during its flight through the atmosphere. Most recently construction of a Hypersonic Wind Tunnel was completed at Plum Brook. This will allow testing of ramjet engines at speeds ranging from five to seven times the speed of sound.



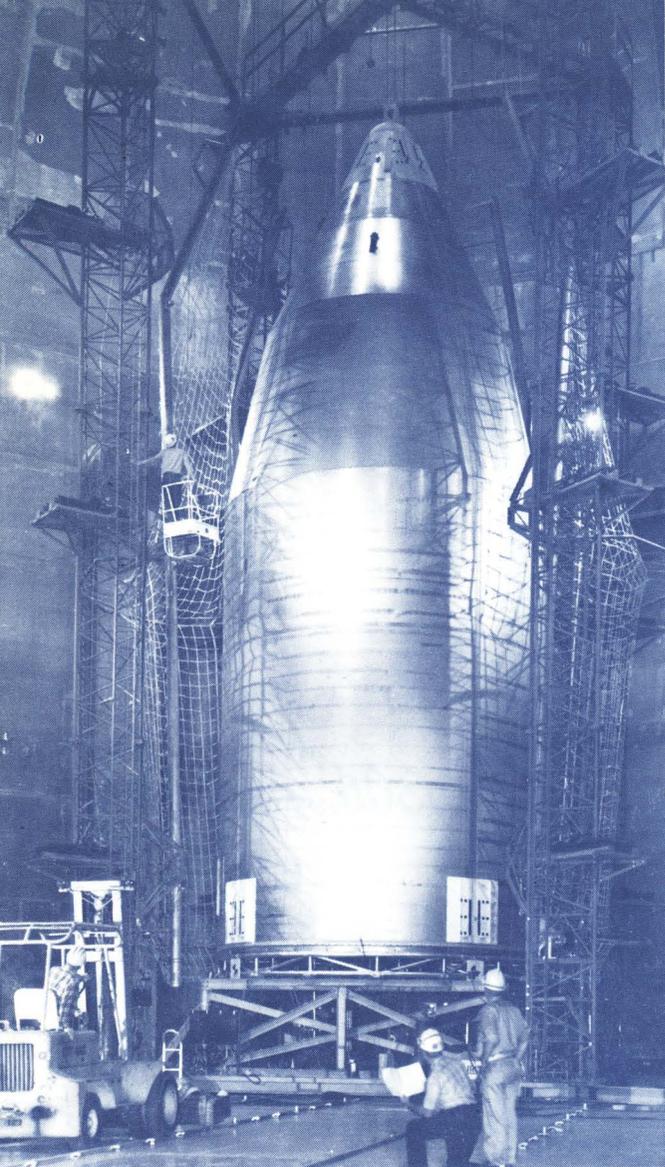
30th Anniversary

LEWIS
RESEARCH
CENTER



PLUM BROOK
STATION
TOUR

RESEARCH PROJECTS IN PLUM BROOK'S MAJOR RESEARCH FACILITIES



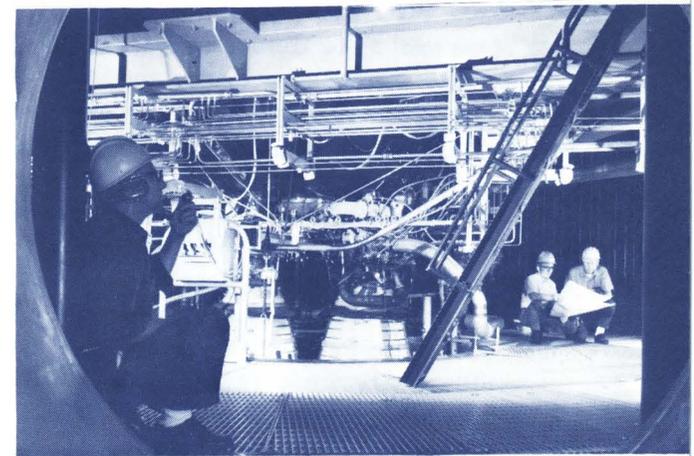
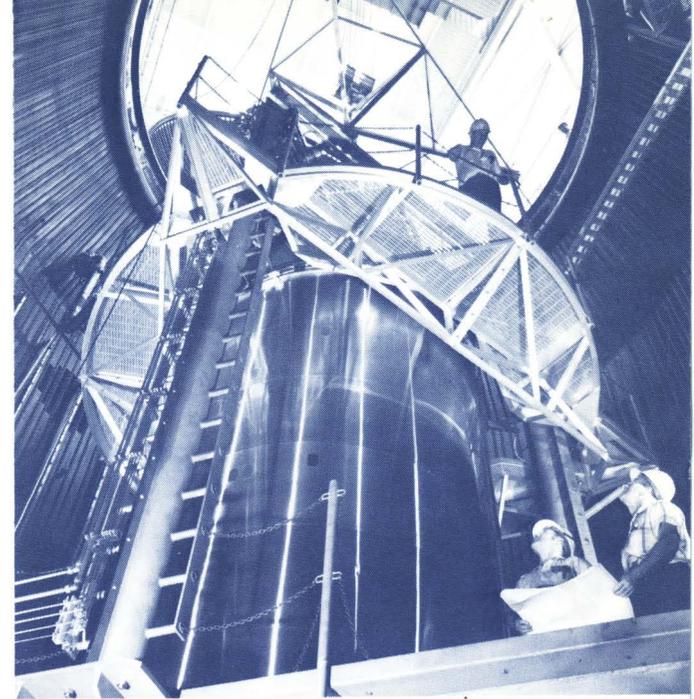
SPACE POWER FACILITY TEST CHAMBER

NASA's Skylab Payload Shroud is installed for jettison tests. The Skylab Project is NASA's orbital workshop. The protective shroud will be used during launch and then jettisoned. This chamber is the world's largest vacuum chamber, and can simulate space environment over a wide range of thermal and vacuum conditions.



REACTOR CONTAINMENT VESSEL
& REACTOR HOT LABORATORY

The large, round shield (upper center) is directly over the Plum Brook Reactor where over 50 research experiments can be conducted simultaneously. Besides aerospace projects, U.S. and Russian lunar samples and earth environmental samples are tested here. Technicians are operating a neutron radiograph facility which can be seen under 20' of water. In the Hot Laboratory, technicians using manipulators are working on post-irradiation tests.



SPACECRAFT PROPULSION RESEARCH
FACILITY TEST CHAMBER

NASA's Advanced Centaur space vehicle is installed for testing. Rocket engines are test fired in simulated space vacuum and thermal conditions. The Centaur upper-stage launch vehicle, managed by Lewis Research Center, uses liquid hydrogen fuel. Centaur-Surveyor made the first soft moon landing, and Centaur-Viking will make the first U. S. landing on Mars.

