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U. S. NAVAL AIR DEVELOPMENT CENTER, JOHNSVILLE, PA.

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ASTRONAUT TRAINING AT JOHNSVILLE



ASTRONAUT JOHN GLENN enters the AMAL centrifuge during a recent trip to Johnsville.

Astronauts Use Centrifuge For Gemini Training

The end of Project Mercury in no way ended NADC's involvement in the U. S.'s manned space program. The Aviation Medical Acceleration Laboratory and the Aeronautical Computer Laboratory here are already deeply involved in the second major phase of the space program: Project Gemini.

AMAL's human centrifuge is again being used to train astronauts and evaluate equipment. Phase I of the Gemini Centrifuge Program ended recently, and Phase II got off to a fast start.

Objectives

The objectives of 'Phase I were to conduct an engineering evaluation of the manual controls and flight displays; to become familiar with the normal launch and re-entry phases of the Gemini mission; to evaluate selected abort profiles; and to test the Gemini pressure suit.

Helping to evaluate the Gemini equipment were five of the original astronauts: Scott Carpenter, John Glenn, Virgil Grissom, Alan Shepard and Donald Slayton. There were some new faces in the centrifuge, too — the Project Gemini astronauts.

Chambers Director

The project director is AMAL's Dr. Randall Chambers. Frank Coe of NASA is the project engineer.

For the centrifuge runs the gondola was fitted with a trainer built by McDonnell Aircraft Company. The trainer consists basically of the crew station for the command astronaut in the two-man Gemini spacecraft. This crew station includes spacecraft controls and display panels. Thus, the equipment in the 'Gondola' simulates that which the astronauts will have in the Gemini capsule.

ACL Computer

ACL's analog-digital computer provides time variant functions for operation of the centrifuge and the cockpit controls and displays. The various parameters were programmed to provide as much realism as possible.

In the training program — Phase II all 16 astronauts (the original seven and the nine Project Gemini astronauts) are undergoing training as command astronauts for the two-man Gemini flights.

The centrifuge runs for each astronaut include a normal launch and reentry simulation. Various launch aborts and reentries are then simulated. The pilot manually controls all reentries.

Local Astronaut

Among the new astronauts taking their first rides on the centrifuge was Navy Lieutenant Charles Conrad Jr., the only astronaut from the Philadelphia area.

Unfortunately, Conrad said, his tight work schedule did not permit him sufficient time during his Johnsville trip to visit his mother, who resides in nearby Haverford. "Perhaps I'll have this opportunity when I return to 'Johnsville in the near future for additional training on the centrifuge," Conrad stated.

In fact, all the astronauts will be back at the AMAL centrifuge before next year's two-man orbits get underway. NADC will continue to be an integral part of the nation's space program.