

NAVAL AIR DEVELOPMENT CENTER
WARMINSTER, PENNSYLVANIA

FACTS AND FIGURES

NADC, Warminster, is the Navy's principal research, development, testing and evaluation center for naval aircraft systems.

STATISTICS

Civilian personnel	2394
Military personnel	64 Officers, 212 Enlisted
Land	735 Acres
Floor space	1,327,000 square feet

HUMAN CENTRIFUGE

The Human Centrifuge, one of the largest in the country, is the only centrifuge facility capable of operating in a pilot controlled closed loop to simulate maneuvering flight of high performance aircraft. It consists of a 10-foot diameter spherical gondola mounted in power-driven gimbals at the end of a 50-foot tubular steel arm, which is driven by a 4000 horsepower DC motor. Loads up to 1000 lbs. can be accelerated to 40 G's in 6 1/2 seconds. The gondola environment can simulate "in-flight" vacuum altitudes of 125,000 ft. with provisions for regulated temperature, humidity and dual axis vibration.

INERTIAL GUIDANCE FACILITY

The inertial guidance facility is a separate laboratory designed specifically for the evaluation and development of inertial navigation systems including highly sensitive and precision gyros and accelerometers. The facility was specially designed and constructed to be completely non-magnetic and to reduce noise and vibration in the "quiet laboratory" test area to an absolute minimum. It is located on bedrock, which surveys indicated provided the most seismically quiet spot in the continental United States. A complete range of turntables and vibration equipment is located in piers bonded to the bedrock. A super "clean room" is also provided for the assembly and disassembly of precision inertial navigation components.

SONAR DEVELOPMENT FACILITY

This facility is a 900 ft. long, 360 ft. wide, 65 ft. deep quarry located on a 14.7 acre site at Oreland, PA., 16 miles from Warminster. Consisting of a 30 ft. by 50 ft. floating laboratory, transfer barges and overhead cranes, and a cliff-side sonobuoy launcher, it is used for the measurement and calibration of the properties of underwater acoustic transducers.

COMPUTER FACILITIES

The Center's computer facilities are outstanding due to their unique flexibility. They are utilized not only for performing general scientific, engineering, and management computations and data processing, but also to provide extensive real-time simulation capabilities for aircraft and missile flight tactics, and control simulations.

ENVIRONMENTAL

An extremely wide range of environmental equipment provides Center research engineers with complete facilities for testing aircraft, components and equipment. Among these environmental facilities are equipment for controlled dust, sand, explosion, rain, fog, salt, spray, salt fog, cold, heat, altitude, pressure, vibration shock, stress, strain, and fatigue.

MATERIALS SCIENCE AND MATERIALS ENGINEERING

There is an elaborate complex of advanced equipment which includes neutron activation analysis, laser spectrography, electron microscopy and electron microprobe facilities, in addition to the normal conventional methods of materials analysis. Materials Engineering includes complete pilot plant facilities for rubber technology, organic coatings, preservation and packaging, sandwich construction, composite materials, special lubricants, and metallurgical fabrication, including welding, plating, and failure analysis.

BIO-ASTRONAUTICAL TEST FACILITY

This facility is a high altitude test chamber used for research, development and evaluation of the engineering aspects of closed life-support systems for space flight. It provides controlled conditions for determining the psychological and physiological aspects of long term flight operations.

ANTI-SUBMARINE WARFARE FIELD STATION, KEY WEST, FLA.

A year-round quick reaction test facility for the airborne anti-submarine warfare community is maintained at the Naval Air Station in Key West. In addition to a 10,000 sq. ft. laboratory, a 1,000 ft. pier is available with complete support shop facilities.