NAVAIR Aircraft Platform Interface Laboratory

Environmental Test

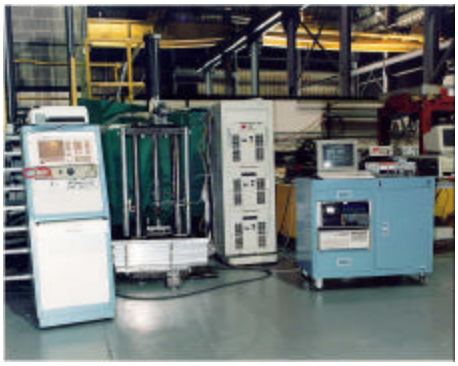
The Environmental Test Laboratory (ETL) can perform a wide range of military-standard environmental, mechanical, and electrical tests. Using computer controlled devices, the laboratory engineers and technicians can also meet a wide range of custom test requirements tailored to specific products including proof load tests, life-cycle-tests, and tests that require a combination of environments and mechanical and electrical stimulation.

Electrical and mechanical engineers and technicians working in the ETL have a long history of providing unique test capabilities and ongoing working relationships with its customers. Unique capabilities include a 50,000 force-pound hydraulic vibration table, three load frames for structural testing up to 300,000 pounds, a combined temperature-humidity-altitude-vibration chamber, and a fully automated thermal shock chamber. The ETL is the only facility available for testing critical catapult components such as capacity selector valves, spindles, and rod and snubber assemblies.

The ETL has a long-standing relationship with its primary customers, the aircraft launch and recovery equipment (ALRE) and support equipment (SE) communities at Lakehurst and elsewhere within the Navy. The knowledge sharing and cooperation in design efforts that have occurred as a result of this relationship have provided extensive benefits to the Fleet during product development, manufacturing, and engineering investigations.

Military Standard test capabilities include:

- MIL-STD-810: Climatic, Shock, Vibration
- MIL-T-28800: Climatic, Shock, Vibration, Electrical, ESS
- MIL-STD-167: Shipboard Vibration
- MIL-S-901: Shipboard Shock
- MIL-STD-1399: Shipboard Electric Power and Ship Motion
- MIL-STD-202: Electronic Components
- MIL-E-5400: Electronic Equipment
- MIL-DTL-6363: Aircraft Lamps



Electromagnetic shock test

Altitude chamber

Lightweight shock machine

Hydraulic shaker

Visit our web site: www.lakehurst.navy.mil

Partnering Opportunities

Several mechanisms exist for partnering with NAVAIR Lakehurst. These include cooperative research and development agreements (CRADAs), commercial services agreements (CSAs), and education partnership agreements (EPAs). Under a CRADA, Lakehurst engineers and scientists work cooperatively with their peers in industry or academia on mutually beneficial research and development. The Navy has been given statutory authorization, via CSAs, to use Navy facilities to perform specific types of work for private parties. EPAs allow collaboration between NAVAIR Lakehurst and educational institutions.

Potential Applications

The ETL's facilities and expertise are available for use by any government, academic, or commercial customers requiring flexible and rigorous testing in a variety of environmental, mechanical, and electrical environments. ETL customers also have access to the Component Analysis Laboratory, Electromagnetic Interference Laboratory, and Physical and Electrical Calibration Laboratories

Gilmore load frame

For More Information

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NAVAIR Lakehurst's Aircraft Platform Interface Facility was opened in August 2002. This 66,000-square-foot research and development facility supports the Navy's aircraft launch and recovery and support equipment missions. The technical capabilities covered by the 14 laboratories in this facility include power control systems; modeling, simulation, and data analysis/management; optical and lighting systems; integrated diagnostics; component evaluation; and applied technology. The synergism provided by collocating these teams of engineers, scientists, and technicians in one building further enhances this state-of-the-art facility.

NAVAIR Lakehurst researches, develops, tests, and procures aircraft launch and recovery systems and support equipment for Navy and Marine Corps aviation.