

# ***AIRCRAFT STORES CERTIFICATION TEST FACILITY***



The Aircraft Stores Certification Test Facility, located at the Naval Air Warfare Center (NAWCAD), Patuxent River, MD, is used by engineers to perform research, development, test and evaluation in support of fixed and rotary wing aircraft/stores certification for installed aircraft weapon systems. The test facility has seven component facilities.

# ***FACILITY OFFERS AIRCRAFT / STORES TEST CAPABILITY***

The seven component facilities of the Aircraft Stores Certification Test Facility provide for comprehensive ground testing of aircraft/stores compatibility.

Aircraft stores certification ground test facilities provide the capability to conduct test and evaluation of fixed and rotary wing aircraft/armament compatibility including armament/stores management systems, suspension and release equipment, interface with loading and ship installation equipment, internal gun installations and external gun pods, targets, and verification of technical manuals.

The component ground test facilities include:

**MUNITION / STORES LABORATORY (FIRING TUNNEL):** This laboratory includes two enclosed concrete structures 300 ft long x 25 ft high which are used for internal and external gun firing tests.



Measurements are made of muzzle velocity, cyclic rate of gun fire, projectile dispersion, boresight retention, boresight adjustment procedures, gun gas concentration and gun bay temperatures. Evaluations of ammunition feed and spent brass ejection systems are conducted.

**M A S S PROPERTIES LABORATORY:** This facility is used to acquire accurate weight, center of gravity, and 3-axis moment of inertia determinations for air-launched munitions and armament equipment.

**INDOOR GROUND EJECTION FACILITY:** This facility is used to evaluate bomb racks to determine ejection velocities, store pitch rates, and arming wire and device system function and reliability.

**ROCKET TEST STAND:** This facility provides the capability to ground launch rockets or other dispensed stores from the test stand or aircraft with full instrumentation available.

**ORDNANCE ELECTRICAL SYSTEMS LAB-ORATORY:** This laboratory provides the capability to simulate input and output for all weapon release system components

including multiple ejector racks, intervalometers, arming and fuzing functions and other factors essential to aircraft/armament compatibility tests.

**AIRCRAFT ARMAMENT SYSTEM SIMULATION ENGINEERING TEST STATION:** This laboratory is used to analyze the compatibility of the interface between aircraft and stores, conduct pre-flight weapon systems evaluation and post-flight trouble-shooting, and determine the operational description of store functional sequences allowing for proper control, release, and use of store combinations.

**BALLISTICS LABORATORY:** This facility provides for the calculation and determination of weapon delivery data and associated fuzing and safe escape data for the use of fleet operators.

**ORDNANCE FILM ANALYSIS LABORATORY:** This facility provides the tools necessary to analyze store carriage and separation film and video data and, if necessary, convert it to film or digital formats.

*For more information, contact the Air Vehicle/Stores Compatibility Division at 301-342-4171.*