



WIND TUNNEL FACILITY

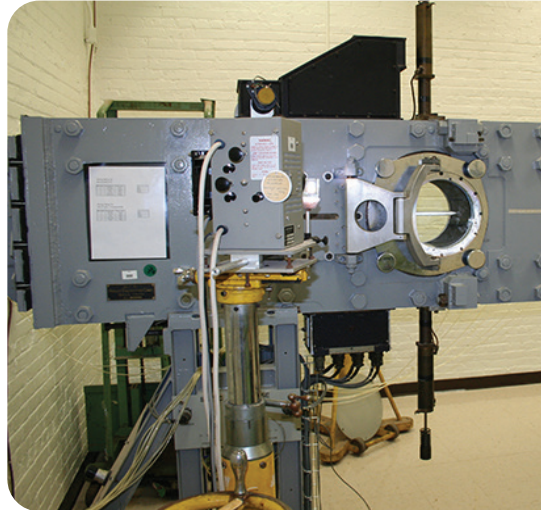
LABORATORY INFORMATION FACT SHEET

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This Combat Capabilities Development Command Armaments Center (DEVCOM AC) Wind Tunnel facility consists of subsonic, transonic and supersonic wind tunnels to acquire aerodynamic data.

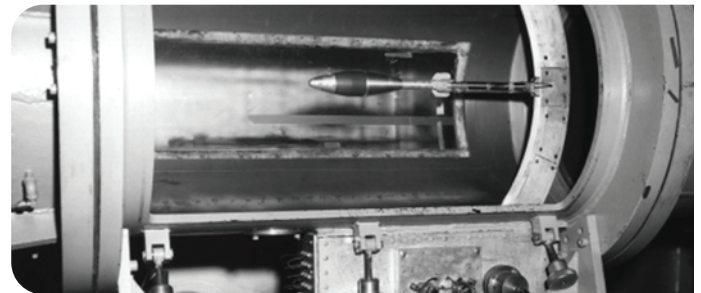
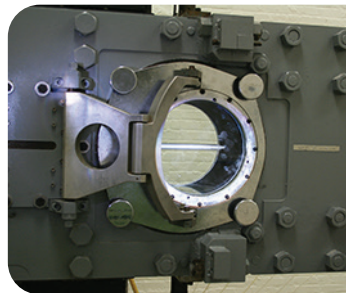
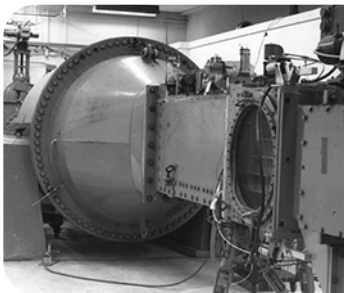
TECHNOLOGY/FACILITY DESCRIPTION:

Full-scale and sub-scale models of munitions are fitted with sensitive laboratory instruments and mounted in the wind tunnels to measure free-flight aerodynamic characteristics such as stability, drag, spin rates, fuze arming, etc. The facility can

accommodate munitions of all types, from small arms to large caliber anti-tank, mortar and artillery rounds. In most cases the items can be tested at tactical flight conditions.

Aerodynamic information can also be collected on objects other than projectiles, including submunitions. A low-speed, low-turbulence wind tunnel has been acquired. This wind tunnel may be used for analyzing UAVs, grenades and other items subject to low speed conditions.

In-house aeroballisticians and technical advisors provide consultation in test setup, model design and analysis of test data. The wind tunnel staff has access to fabrication shops and rapid prototype facilities enabling test item modifications. This facility also has a physical property measurement lab, for measuring the mass, center of gravity and moments of inertia of inert items.



EQUIPMENT AND EXPERTISE AVAILABLE:

- Subsonic tunnel - test area: 24" dia., test speed (Mach): 0.0 to 0.76, type: intermittent induced
- Transonic tunnel - test area: 16" x 16", test speed (Mach): 0.80 to 1.20, type: intermittent blowdown
- Supersonic tunnel - test area: 9" x 9", test speed (Mach): 2.4, 3.0, 3.5, type: intermittent blowdown
- Low speed low turbulence tunnel - test area: 12" x 24", test speed (Mach): 0.1 (max), type: continuous flow
- Vertical tunnel - test area: 24" x 24", max pressure = 300 psi
- Low speed tunnel - test area: 12" x 12", test speed 60 mph, type: continuous flow
- Physical property measurement lab
- Can conduct work for contractors by implementing a Test Service Agreement
- Consult on test setup, model design and analysis