



Redstone Test Center



Missile/Aviation Propulsion Testing

RTC provides the Army's largest static test facility staffed with experienced engineers and technicians with unique specialized, certified skills for testing of liquid, solid and hybrid rocket and missile propulsion systems. This test capability includes five static test stands with nine test positions for both horizontal and vertical testing. These stands have thrust test capabilities up to 10,000,000 lbs of force, up to 250,000 lbs. of propellant and include unique capabilities to test with hypergolic fuels and oxidizers. Test capabilities allow for exhaust plume attenuation and signature testing. The test area also includes a recently updated and renovated control facility and fully instrumented blockhouse along with capabilities for ammunition storage. In addition to static test firing, our engineers and technicians are certified for rocket motor dissection up to 50,000 lbs. of propellant. Our static test facilities provide a "cradle to grave" test capability for propulsion testing from early concept development through recycle and demilitarization operations. In addition to missile propulsion testing, we offer environmental testing for the conduct of explosive atmosphere, altitude and rapid decompressions testing of developmental and fielded DoD and commercial assets. Finally, we have the Redstone Air Propulsion Test and Research (RAPTR) facility that houses three bays for testing helicopter engines and various other aircraft components. See capability highlights below for additional RAPTR information.

Core Competencies

- Rocket Motor and Warhead Dissection
- Exhaust Plume Attenuation and Signature Testing
- Six Degrees of Freedom Motor Firings with Thrust Vector Control Systems
- Testing With Hypergolic Fuels and Oxidizers
- Mobile Liquid Propellant Action Response Team
- Ground Testing of Helicopter Engines
- Safety of Flight Testing (Explosive Atmosphere)
- High Altitude and Rapid Decompression
- Aircraft and Aviation Propulsion Components and Condition Based Maintenance Testing

Capability Highlight

The Redstone Aviation Propulsion Test and Research Facility's three major test capabilities:

- Ground testing of Helicopter Engines (air-breathing turbo-shaft) and UAS Engines (turbo-prop)
- CBM Studies: Low Cycle Fatigue, Seeded Fault Integration, Component Testing (APU, ECU, Driveline)
- Facility offering development, acceptance, checkout testing for the current fielded Army aviation engine diagnostics system, Flexible Engine Diagnostic System.

Capacity of the Major Test Stands

