



704 TG/OL-AC FACT SHEET

- Landing Gear Test Facility -



The Landing Gear Test Facility (LGTF) is operated by the 704th Test Group's Aerospace Survivability and Safety Office (704 TG/OL-AC) at Wright-Patterson AFB, OH. The 704 TG/OL-AC is part of the 704th Test Group (704 TG) at Holloman AFB, NM. The LGTF is the United States Air Force responsible test organization for all landing gear systems (tires, wheels, brakes, struts, etc.) and has served the Department of Defense, NASA, other government agencies, foreign allies, and commercial entities for more than 70 years. This world-unique facility is known for producing independent, reliable, and impartial test results that can be counted on for accuracy.



Tires

- Dynamic & Static Testing
- Missionized Wear Testing
- Footprint Pressure & Slip Testing
- Physical Properties Testing
- Non-Destructive Testing
- Hydrostatic Burst Testing



Wheels & Brakes

- Brake Dynamic & Static Torque
- Qualification & Wear Testing
- Rejected Take-off
- Wheel Roll
- Combined & Static Load Testing



Landing Gear

- Landing Impact (Drop) Tests
- Load Stroke Tests
- Durability, Fatigue, Stability & Stiffness
- Shimmy, Shock & Vibration Tests
- Service Life Testing

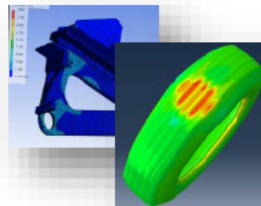
Engineering & Test Support

- **Test Engineering** – Requirements, Test Planning, Test Methods, Scheduling & Oversight
- **Instrumentation** – Strain, Load, Pressure, Temp, Displacement, High Speed & Thermal IR Video
- **Design** – Tailored Tooling & Fixture Design
- **Fabrication** – In-house Machine Shop & Established Vendor Team for Quick Turnaround
- **Data Reduction and Reporting** – Complete Data Reduction, Statistical Analysis & Reporting
- **Advanced Engineering RDT&E** – Provide Intricate Analysis and Development of Landing Gear Technologies to Meet Customer RDT&E Needs

Standard Test Capabilities

- **Variable Inertia Dynamometers (Tire/Wheel/Brake Testing)**
 - 192" Dyno = 200 MPH, ≤ 140" Tires, Loads ≤ 300k lbs.
 - 84" Dyno = 250 MPH, ≤ 64" Tires, Loads ≤ 44k lbs.
- **Fixed Inertia Dynamometers (Tire Wear/Qualification)**
 - 168" Internal Dyno = 350 MPH, ≤ 54" Tires
 - 120" Dyno = 350 MPH, ≤ 72" Tires, Loads ≤ 150k lbs.
- **Tire Force Machine (Mechanical Properties)**
 - Resolve 6 Components of the Reaction Forces as Tire Rolls
 - Sensor Array Measures Pressures & Slip at Tire Footprint
- **Compression/Tension Load Machines (Force vs. Deflection)**
 - 3,000k lbs. Compression, 1,000k lbs. Tension, 60" Stroke
 - 200k lbs. Compression, 200k lbs. Tension, 12" Stroke
- **4 Drop Towers (Impact Testing)**
 - Ranging from 3.6k lbs. - 150k lbs. Load
 - Ranging from 15' – 25' Travel
- **Burst Pit (Strength Testing)**
 - 72" x 120" x 126"; Inflation to 5000 psi
- **Fatigue & Dynamic Load Test Machine**
 - 6 DoF Life Cycle Fatigue Testing with Full Gear Assembly
 - Simulate Air-Drag Loading on Landing Gear
 - Perform Full Qualification Tests for Landing Gear
- **Tire Wear Testing Capabilities (168" Internal Dyno)**
 - Runway Condition Reading (RCR) Measurement
 - Runway Surface Replication
 - Friction Measurement
- **Thermal (+250°F to -80°F) & Wet Surface Conditioning**

Advanced Analysis & Modeling Capabilities



Investing in the development of advanced computational modelling & simulation capabilities to provide enhanced test analysis, equipment design, and predictive component/system response analysis.

THE WORLD'S LEADING SOURCE FOR MILITARY AND COMMERCIAL LANDING GEAR SYSTEMS/COMPONENTS TEST AND EVALUATION

Point of Contact
704 TG/OL-AC
937-255-9216
DSN: 785-9216