

**Dayton T. Brown, Inc.** offers a variety of product life cycle support services, including testing, engineering, publications, and logistics. For over 65 years, DTB has supported military and commercial enterprises around the world. DTB's 32-acre engineering and technical campus houses an accredited testing laboratory with diverse testing capabilities, such as Environmental, Dynamic, Electrical, Structural, etc., as well as manufacturing and research facilities. These resources are well-staffed by subject matter experts, engineers, technicians, logisticians, technical authors, programmers, and seasoned project managers to blend the talents best suited to answer client requirements.

DTB can guide your project from development to delivery of publications and information systems compliant with a variety of specifications. We pride ourselves on sustaining long-term relationships with a diverse portfolio of commercial and government customers by thoroughly understanding and meeting their requirements for present and future products and services.

Whether engineering a product from infancy, prototyping for performance-testing in simulated environments, modeling maintenance timelines, or developing manuals, DTB is the time-tested and reliable source for results. We will listen, expertly assess your needs, and offer strategies that get the job done, based on sound planning, experience, and innovation.

**Shock and Vibration Testing**

- Acceleration
- Acoustic Noise
- Combined Environments Vibration
- CIA SET Shock Towers
- Inclination
- Pyrotechnic Shock
- LWHS and MWHS Facilities
- Random, Sine, etc.
- Seismic Vibration
- Transportation and Packaging Shock/Vibration
- Unholtz-Dickie Electrodynamic Facilities; 55,500 Ft. Lbs. to 24,000 Ft. Lbs.

**EMI/EMC and Electrical Testing**

- Electrical MIL-STD-1399
- Electromagnetic Pulse (EMP)
- Electrostatic Discharge (ESD)
- Radiated and Conducted Emissions
- Lightning
- Magnetic Field Emissions and Immunity
- Power Quality
- Radiated, Conducted, and Inducted Susceptibility
- Shielding Effectiveness
- Tempest

**Structural and Fatigue Testing**

- Composite Material Testing
- Coupon Testing
- Damage Tolerance Analysis
- Flight Test Support
- Fatigue
- Fatigue Life Prediction
- Hydraulic Pressure Testing
- Instrumentation and Data Acquisition
- Load Development
- Material Testing
- Static
- Strain Gauge Services

**Safety and Survival Testing**

- Air Crew Equipment Validation
- Deployment Performance Evaluation
- Life Support Systems
- Optics and Laser Eye Protection
- Pneumatics
- Windblast Testing

**Ballistics Testing**

- 100-Meter Indoor Firing Range
- Accelerated Life Testing
- Ballistics Testing, Including Weapons, Ammo, Armor, and Vests
- Failure and Materials Analysis
- Handcuff Testing per NJ 0307.01
- Mechanical and Electrical Armament Equipment
- Structural and "Up-Armor" Testing
- Transparent Armor per ATPD 2352
- Nondestructive Testing
- Weapons Development Testing
- Proof Testing
- TOPS

**Rail/Transit Engineering and Testing Services**

- AAR
- AREMA 11.5.1
- Accepted by NYCT
- Control Plans
- EN50121
- EMI/EMC Site Surveys
- MIL-STD-810
- Computer Based Data Acquisition System
- Full Vehicle Qualification/Compliance Testing
- Vibration/Shock/Acoustic Surveys
- MIL-STD-461
- NYCT-1N, 17S
- NYCT-CETP
- PTC/ATC/CBTC/SSI
- Track Circuit Testing
- UMTA
- Wayside Systems

**Environmental Simulation Testing**

- Altitude
- Combined Environments Temperature / Altitude / Humidity
- Explosive Atmosphere
- Explosive and Rapid Decompression
- Fluid Compatibility
- Fungus
- High/Low Temperature
- Humidity
- Icing/Freezing Rain
- Salt Fog
- Sand and Dust
- Solar Radiation
- SO<sub>2</sub> Testing
- Thermal Vacuum
- Thermal Shock
- Wind and Rain Exposure

**Engineering and Fabrication Services**

- Alternate Source Identification
- CAD/CAE Capabilities
- Corrosion Investigations
- Dimensional / CMM Inspection
- Failure Analysis
- Kinematic Studies
- Metallurgical Services
- Nondestructive Testing
- Prototype Design and Fabrication
- CNC Fabrication
- Product Improvement and Validation
- Quality Audits
- Rapid Prototyping
- Reverse/Re-Engineering
- Reliability/Maintainability Modeling
- Site Surveys
- Stress Analysis
- Thermal Modeling
- Test Facility Design and Development
- Test Plan/Procedure Development
- Vendor Qualification

**Armament and Munitions Testing**

- Bomb Rack Cartridge Testing
- Bomb Rack Qualification
- Flight Test Support
- Missile Qualification

**Life Cycle Testing**

- Accelerated Life Testing
- Life Cycle with Environmental Exposure

**Optical Testing**

- Deviation Analysis
- Diffuse Transmittance
- Distortion Analysis
- Haze
- Illuminance
- Laser Power
- Luminous Transmittance
- Luminous Intensity
- Luminance
- Neodymium Laser
- Reflectance
- Spectrophotometry
- Spherical and Cylindrical Power
- Vertical/Horizontal Prismatic Deviation

# MULTI-PLATFORM ROTORCRAFT TESTING

**Innovation.  
Integrity.  
Dependability.**



**Flight Controls... Rotor System... Airframe... Drive System... Qualification Testing**

**1st Article Testing... Production Lot Testing... Alternative Source Testing...**

**Fleet Surveillance Testing... Overhaul/Repair Testing... Life Extension Testing...**

- Alternate Source Qualification Testing
- Design Engineering, Fabrication
- Instrumentation and Data Acquisition

- Engineering and Analysis
- Failure Analysis
- Inspection Laboratory

[www.dtb.com](http://www.dtb.com)

\* Please visit [www.dtb.com](http://www.dtb.com) for testing covered under our scopes of accreditation.

**DAYTON T. BROWN, INC.  
ENGINEERING & TEST DIVISION**



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**PHONE: (631) 589-6300  
FAX: (631) 589-3648**



*A World of Engineering and Testing  
Under One Roof™*



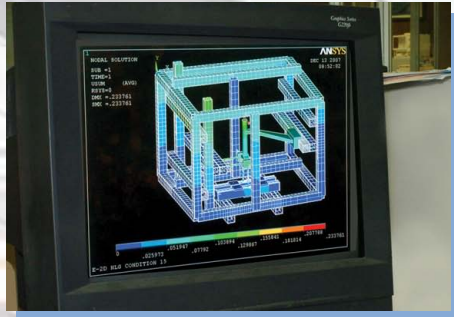
**ISO 9001:2015 and AS9100D  
Registered**



1195 Church Street, Bohemia, NY 11716-5014 USA  
Please direct all inquiries to: 1-800-232-6300 • email [test@dtb.com](mailto:test@dtb.com)  
Visit our web site at: [www.dtb.com](http://www.dtb.com)

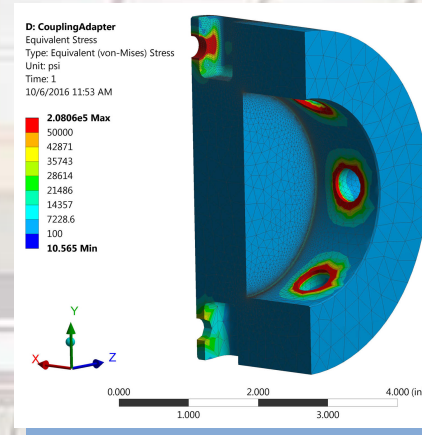
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Photo courtesy of U.S. Army



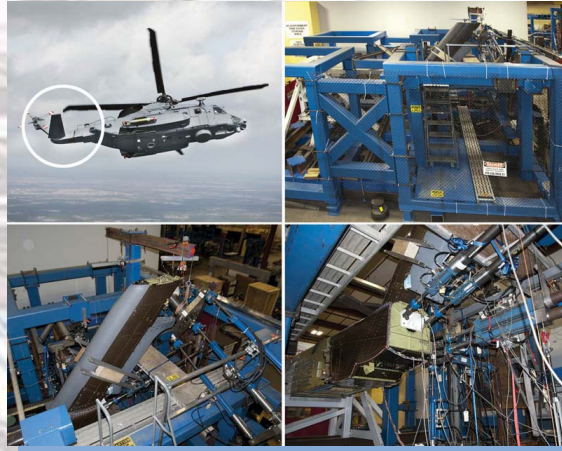
### Alternate Source Qualification Testing:

- Two (2) Specimens Required
- Compare to OEM Test Results
- AMCOM Approved Test Plans Available
- AMCOM Validated Test Setups Available
- Over 40 Fixtures Available for Part Qualification



### Engineering and Analysis:

- Loads Development
- Finite Element Analysis (FEA)
- Specification Development
- Design Improvements
- Test Plan/Procedure Development
- Reliability and Maintainability Analysis
- Reverse/Reengineering Programs
- Life Extension Programs
- Fatigue Analysis
- Logistic Support Analysis and Documentation



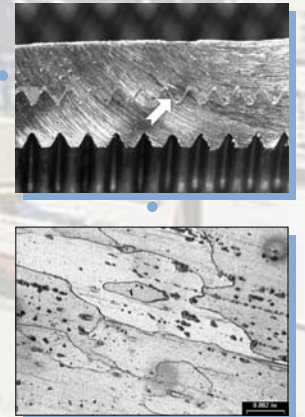
### Design Engineering, Fabrication:

- Structural Fixture Design
- Mechanical Systems Design
- 2D and 3D Computer Aided Design
- N + 1 Aircraft Interfaces
- Complete Welding and Machining Capabilities
- Aircraft Assembly per Specification
- Automated and Manual Test Facility Design



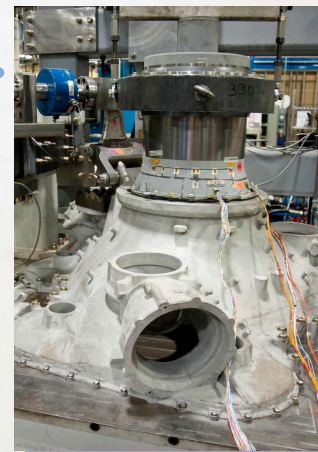
### Failure Analysis:

- Scanning Electron Microscope (SEM)
- Optical Microscopy
- Metallography
- Digital Image Capturing



### Instrumentation and Data Acquisition:

- Strain Gauging
- Crack Wires
- Deflection Measurements
- Load Measurements
- Servo Controlled Fatigue and Static Load Application
- Automated Real Time Data Acquisition to 100 Channels
- Electrical/Electronic Parameter Acquisition
- Data Acquisition During Environmental Exposure



### Inspection Laboratory:

- Leitz and Starrett Coordinate Measuring Machines (CMM)
- Hardness
- Liquid Penetrant
- Magnetic Particle
- Complete Inventory of Dimensional Measurement Equipment
- Coating Evaluation

