# LARGE VEHICLE ENGINEERING & TESTING SERVICES

Innovation.
Integrity.
Dependability.

DTB can help you bring a better vehicle to market, quicker ...









Dayton T. Brown, Inc.'s capabilities and expertise support a complete evaluation of your design. Whether at the system, subsystem or component level, DTB is ready to:

- · Perform finite element analysis of your design(s)
- Carry out fatigue testing of critical system elements
- Fabricate your prototype design
- Provide failure analysis
- Execute accelerated life testing
- Apply breakout testing principles that save on the cost of testing large complex systems
- Formulate methodized manufacturing procedures that meet performance objectives and reduce cost
- · Perform environmental testing
- Perform EMI/EMC and electrical testing
- Hybrid drive/hybrid power plant evaluation

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Since 1950



ISO 9001:2008 and AS9100C Registered



### **Large Vehicle Services Include:**

### **Engineering and Analysis:**

- · Loads and Spectrum Development
- Finite Element Analysis (FEA)
- · Test Plan/Procedure Development
- · Source Identification and Development
- · Reverse/Reengineering Programs
- · Fatigue and Crack Propagation Analysis
- Logistic Support Analysis and Data Package Development

### Inspection/Failure Analysis:

- · Scanning Electron Microscopy (SEM)
  - Kevex Energy Dispersive Spectroscopy
  - Image Analysis
- · Fractographic Analysis (Macro & Micro)
- Metallography
  - Optical Microscopy
  - Metallographic Examinations
- Digital Photography
- Mechanical Properties Evaluation
  - ASTM Standard Tests
  - Hardness
  - Fatigue Strength

- Corrosion Analysis & Testing
- · Arc-Emission Spectrometry
- Coating Analysis/Selection
- Nondestructive Testing
- Liquid Penetrant
- Magnetic Particle

## **Environmental/EMI/EMC Testing:**

- Shock
- High/Low Temperature
- EMI/EMC

- Vibration
- Combined EnvironmentsElectrical TestingIndirect Lightning

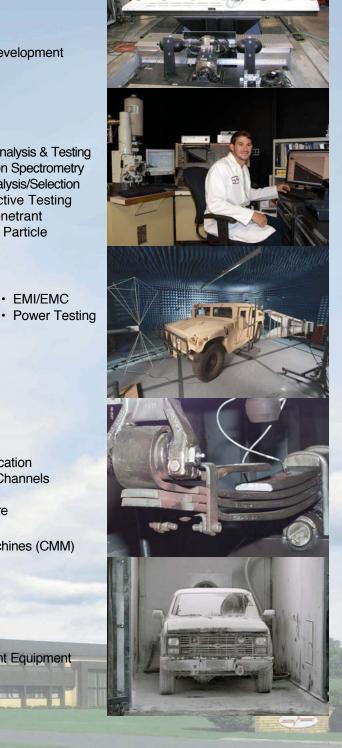
- Humidity
- Salt Fog Sand & Dust
- Shielding Effectiveness

### 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

### **Dimensional Inspection Laboratory:**

- Starrett and Mitutoyo Coordinate Measuring Machines (CMM)
- · Leitz High Accuracy CMM
- FARO Arm
- Surface Finish
- Digitization of Part Surfaces
- Contour Measurement
- Gear Testing
- · Complete Inventory of Dimensional Measurement Equipment
- Coating Evaluation



A World of Engineering and Testing Under One Roof TM

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



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