

# DIMENSIONAL/INSPECTION LABORATORY

**Innovation.  
Integrity.  
Dependability.**



*In DTB's Dimensional Lab, our highly trained staff examines your products from a critical perspective. Dimensional Inspection assures product compliance with design specifications by assessing the geometric characteristics that can affect both the reliability and functionality of the part. Our facility provides the capability to nondestructively/destructively inspect selected parts from a first article or production lot, to confirm conformance to drawing requirements.*

## Services we offer include

- Inspection per ASME Y14.5
- First Article Inspection
- CMM Inspection
- Part to CAD Inspections
- Gear & Spline Inspection using CMM
- Surface Roughness Properties
- Nondestructive Testing:
  - Magnetic Particle
  - Liquid Penetrant

**[www.dtbtest.com](http://www.dtbtest.com)**

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



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ISO 9001/AS9100  
Registered

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**DTB's 1,000 sq. ft. Temperature Controlled Dimensional Lab Equipment includes:**

- Leitz Precision CMM
- Mitutoyo CMM
- Starrett CMM
- Surface Roughness
- Optical Comparator
- Comprehensive Inventory of: Gauge Pins, Thread Gauges, Micrometers etc.

**Dimensional Inspection**

We go the extra mile to ensure quality standards are interpreted properly for you. Our conventional open setup measuring equipment feature 3 large surface plates, height gages, calipers, micrometers, over 250 thread gages, and over 1000 plug gages. We also have an experienced staff of technicians and engineers with a minimum of 10 years experience. Our technicians are trained in geometric dimensioning and tolerancing.

**CMM Inspection**

We have 2 programmable Coordinate Measuring Machines (Leitz and Mitutoyo) to meet your first article or production inspection requirements. Each is capable of confirming all Geometric Dimensional Tolerances per ASME Y14.5.

**Noncontact Dimensional Inspection**

We have a programmable Optical Comparator with auto-edge detection and capabilities of 10X, 20X, and 50X magnifications. Capabilities include 2D measurement analysis and GD & T evaluations. The comparator can be run manually or under direct computer control using surface or profile illumination.

**NDI Nondestructive Inspections**

- **Liquid Penetrant** – DTB has the capability of performing liquid penetrant inspections to procedures with NDT Level 2 and 3 technicians based on ASTM E 1417.
- **Magnetic Particle** – We have the capacity to inspect parts comprised of magnetic materials up to 9.5 feet long. Additionally, DTB has portable magnetic particle inspection equipment.
- **Surface Roughness Analysis** – Our surface roughness measuring station (Mahr-Federal) utilizes a motorized non-skidded stylus measuring probe to determine surface roughness parameters per ASME Y46.1.

**First Article Inspection**

DTB routinely performs First Article Testing for military and commercial suppliers. Prior to dimensional setup, a complete review of the drawing datum structure is performed to create an inspection plan. After the inspection is complete, the measured values are reviewed by our engineering staff.

**Part to CAD Inspection**

We scan your product's critical profiles using the latest measurement technology. We can confirm compliance with your tolerances and display the results with color coded printouts including: nominal part shape, tolerance bands, actual shape, and deviations.

**Gear/Spline Inspection**

DTB has the experience, training and approved CMM software to measure your Helical, Spur and Bevel Gears. Inspections typically included Pitch, Cumulative Pitch, Runout, Involute Profile, Lead and Measurement over/between Wires. Measurements are in accordance with AGMA 2000 (390.03), ANSI B92.1, as well as DIN, ISO and JIS standards.



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