COURSE DESCRIPTION

GD&T Fundamentals

This course will provide you with a solid foundation of the fundamentals of geometric tolerancing based on the latest, state of the art ASME Y14.5-2009 standard and the ISO standards. You will learn the philosophies of how, when, and where to apply geometrics along with common sense tips for producing quality parts. Discussion also covers the application of geometric tolerancing to design, manufacturing, and quality control.

WHAT YOU WILL LEARN

- **Datums**
- **Form Tolerances**
- **Orientation Tolerances**
- **Profile Tolerances**
- **Runout Tolerances**
- **Loction Tolerances**

Please click HERE to view the course outline.

All participants receive a copy of the 380 page GeoTol Pro Book and Pocket Guide that contains full color graphics and is loaded with student exercises. The training materials will serve as a valuable resource long after the training is complete.

Advanced Applications

Using computer animated color graphics and demonstrations with wood and plastic models, participant teams will learn to apply and verify geometric tolerancing. The participants will apply geometric tolerancing to a series of case study problems to meet functional requirements. The problems include a variety of molded, sheet metal, machined parts, wire formed and welded assemblies. Datum reference frames must be established along with necessary application of MMC RFS and LMC modifiers, form, orientation, profile and positional tolerances. Geometric characteristics must be selected and tolerance values must be calculated.

As the problems evolve, participants will learn to perform linear, axial, and orientation tolerance stacks to assure design specification are met. Tolerances will be analyzed and reallocated based on realistic manufacturing capabilities. Problems will be discussed, critiqued, verified, and solutions will be provided based on reasonable functional assumptions and manufacturing capabilities. Datum selection, datum modifiers, and material condition modifiers will be analyzed and evaluated to optimize the design.

Participants receive a copy of two books: 1. Geometric Dimensioning and Tolerancing Stacks and Analysis; and 2. Geometric Dimensioning and Tolerancing Applications with Stacks along with an Excel Tolerance Stack Spreadsheet.

Students should bring calculators to class. Participants may bring drawings to class for discussion.