

# Geometrical Dimensioning & Tolerancing

## GD & T (Part 1) Fundamentals

### Course Overview;

This course is aimed at delegates who have little or no knowledge of using Geometrical Dimensioning and Tolerancing (GD&T). The course is suitable for all engineers as the objectives are to provide a basic understanding of the symbols and how they can be used to solve problems. The course helps to provide a consistent understanding of GD&T within your company.

During the course your own drawings and/or products can be evaluated and improvements suggested.

### Duration;

2 Days, usually between 9am and 4:30 pm.

### Course Content;

#### Datums

- What is a datum?
- Why use datums?
- Applying datums
- Worked Examples

#### Introduction

- Understanding tolerances
- Types of tolerances
- Why use GD & T?

#### Theoretical exact dimensions

- What is a TED?
- How TED's are used
- Worked Example

#### The tolerance frame

- Understanding the tolerance frame
- Applying GD & T
- Worked Example

#### Single feature

- Straightness
- Flatness
- Roundness
- Cylindricity

#### Profile Tolerances

- Profile of a line
- Profile of a surface

#### Related features

- Parallel
- Perpendicular
- Angularity
- Position
- Coaxiality
- Symmetry
- Circular runout
- Total runout
- Worked Examples

#### Maximum material condition

- Introduction
- The bonus tolerance
- Zero tolerances
- Worked Example

#### Projected Tolerances

#### Combined Tolerances

#### Least material condition

- Introduction

#### Summary

- A case study