

REGISTER 3 PAX, FREE 1 SEAT

GEOMETRIC DIMENSIONING AND TOLERANCING (GD&T)

14 Hours **ZOOM & PHYSICAL** Program

100% HRDC CLAIMABLE

HYBRID TRAINING

1 & 2 Sept 2026 (Tue & Wed)



Remote Online Training (**Zoom**) &
Dorsett Grand Subang Hotel, Selangor
(**Physical**)

**** Choose either Zoom OR Physical Session**

LEARNING OBJECTIVE:

At the conclusion of this 2 days program, participants will be able to:

- Gain knowledge on what GD&T is all about
- Explain the benefits of geometric tolerancing
- Learn how to apply GD&T in their job
- Able to interpret customers requirements from the design drawing
- Understand the problems in manufacturability
- Be reminded of the Do's & Don't's of proper tolerancing
- Able to set quality control criteria from design drawing
- Identify datum features and determine their order of precedence
- Identify and interpret each of the characteristic symbols
- Describe the material condition modifiers and how "bonus" tolerance occurs
- Correctly interpret GD&T feature control frames, and explain the impact on manufacturing and inspection

INTRODUCTION:

Geometric dimensioning and tolerancing (GD&T) is a language used on mechanical engineering drawings composed of symbols that are used to efficiently and accurately communicate geometry requirements for associated features on components and assemblies. GD&T is, and has been, successfully used for many years in the automotive, aerospace, electronic and the commercial design and manufacturing industries.

Success oriented industries and organizations which, require accurate and common lines of communications between engineering, design, manufacturing and quality should consider geometric dimensioning and tolerancing (GD&T) as their mechanical drawing standard.

METHODOLOGY:

- The workshop is a mixture of presentation with personal examples, videos, assessment, discussions and group activities.
- Practical activity on drawing interpretation and measurement methods will be given throughout the training for better understanding.

INTENDED AUDIENCE

- This 2 days workshop has been designed for Engineers, Supervisors, Technicians, Inspection & Measurement Technicians and Production staff who are involved in design, measurement and production of mechanical parts.
- This course is designed for personnel whose work requires them to communicate, interpret or manufacture products through the use of engineering drawings and/or CAD models.
- Also those communicating constantly with customers for new parts/molds manufacturing.
- Participants should have an understanding of basic blueprint reading.



COURSE CONTENT

Day 1: 9am - 5pm

1. Introduction to GD&T

- Limitations of coordinate tolerancing
- Advantages of GD&T
- Exercise 1

2. Standards

- Latest GD&T revision & governing body
- Exercise 2

3. Dimensioning & tolerancing fundamentals

- Basic dimension
- Critical dimension
- Reference dimension
- Feature control frame
- Exercise 3

4. Common symbols used in GD&T

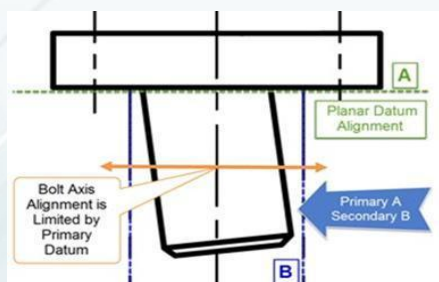
- New symbols from rev 2009 Y14.5
- Exercise 4

5. Rules for drawing & design

- Rule #1
- Rule #2
- Bonus Tolerance
- GD&T applied to a feature of size
- Bonus and the MMC modifier
- Virtual condition
- Gauging and inspection using GD&T
- Exercise 5

6. Datums

- Datum vs. datum feature
- The datum reference frame
- Primary, secondary, and tertiary datums
- Exercise 6



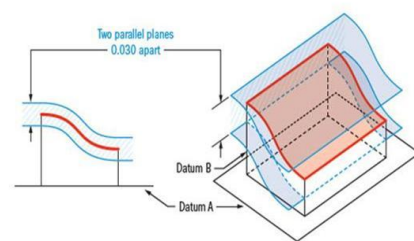
Day 2: 9am - 5pm

7. Forms

- Straightness
 - Straightness Brief
 - Line Element Straightness
 - Design
 - Tooling / production
 - Inspection
- Flatness
 - Flatness Brief
 - Surface Flatness
 - Design
 - Tooling / production
 - Inspection
- Roundness
- Cylindricity
- Exercise 7

8. Profiles

- Line profile
- Surface profile
- Exercise 8



9. Orientation

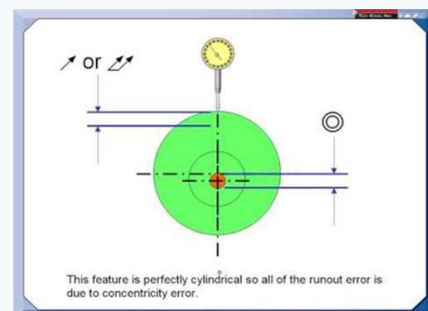
- Angularity
- Perpendicularity
- Parallelism
- Exercise 9

10. Location

- Position
 - True position
 - Position tolerance RFS
 - Using MMC or LMC
 - The "boundary" concept
 - The pitch diameter rule
- Symmetry
- Concentricity
- Exercise 10

11. Runout

- Circular runout
- Total runout
- Exercise 11



12. Common issues/errors faced

- Exercise 12