GEOMETRIC DIMENSIONING AND TOLERANCING (GD&T)

GD&T is a system of symbols, rules and definitions used to define the geometry of mechanical parts. This system is used to ensure that the products are the most economically produce through that everyone is on the same direction regarding how a feature or part is defined, produced and inspected. The key function of these standardized symbols in the engineering drawing are such as:

- size - the overall dimensions are as specified
- form - the shapes specified must have the correct geometrical form
- fit - two parts must mate as specified
- function - the product conforms to performance specification
- reliability - the product performing its intended function under stated conditions without failure for given a period of time.
- interchangeability - the part able to replace without do any modification.

LEARNING OBJECTIVE

After seriously committed to this course, the trainee should be able to do the following:

- Know the four major geometric characteristics, the five family geometric controls that consisting of fourteen elements and the simple four steps to apply GD&T.
- Understand types of features either regular or irregular that will decide which the geometric tolerance is suitable to attach at the feature.
- Understand the contents of a feature control frame that use as geometric control of the feature.
- Understand contents and requirement of various types of feature control frame.
- Understand geometric tolerancing symbols are used to specify the functional relationship between or within part features.
- Understand datum that is the starting point for the measurement and production.
- Understand a variety of inspections and gauging equipment, and finding the appropriate measuring or gauging method that will properly evaluate the part feature being controlled.
- Understand the application of the modifiers.
- Determine the virtual condition size when the feature is implied with MMC.
- Understand the features that can be implied with MMC.

TARGETED INDUSTRIES

Automotive, Aerospace, Engineering, Tooling, Fabrication, Casting, Mould maker, Medical devices manufacturer, Commercial Design, Electronic and all industries involving GD&T

TARGET GROUP

Designer & Drafting personnel, tool makers, machinist, engineers, inspectors and all others require to interpret or apply GD & T. This course will greatly help companies striving to obtain QS-9000/IAFT16949 certification and who need to meet GD&T requirement.It can serve as a refresher for experienced technicians; or it can be used in orientation for new hires.

METHODOLOGY& LANGUAGE USE

Training slides, Demo Kits, Review Questions, Exercises, Case Study,Q&A, Testbefore & afterTraining.
Training Manual – English
Course deliver language – Can be mix of English, Bahasa Malaysia and Chinese

COURSE OUTLINE

- Introduction to Geometric Dimensioning &Tolerancing (GD&T)
- The Modifiers of GD&T
- General Rules for GD&T
- Symbols and Abbreviation
- Datum
- Form Controls
- Orientation Controls
- Location Controls
- Composite Control